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ABSTRACT

The proceedings of the annual convention (1973) of Vermont behavioral educators contain 27 case studies of educational programs applying behavior theory to create an individualized, data-based, and accountable school system in which handicapped and normal students are integrated. The case studies, which are grouped according to school districts, describe such projects as: elimination of belligerent and truant behavior for a predelinquent boy; a fourth and fifth grade individualized reading program utilizing teen tutors; use of a teaching/learning unit to achieve instructional objectives for four high school accounting students; increasing gym participation for a first grade boy; and studying the effects of earning a bicycle on social and academic behavior. Other case studies reported the effects of reinforcement procedures on good silent reading characteristics; modification of out-of-seat behavior; and penmanship studies involving two brothers. (GW)

ED 097785

A VERY SPECIAL EDUCATION

for

ALL CHILDREN

Proceedings of the Third Annual Convention
for
Behavioral Educators

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EDUCATION & WELFARE
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Edited by

Lu Christie, Ann Egner, and B. J. Lates

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FOREWORD

Edwin W. Martin, Associate Commissioner of the Bureau of Education for the Handicapped, U. S. Office of Education, stated recently,*

> "AS PROFESSIONAL PEOPLE WE ARE ADVOCATES FOR THE CHILD, HELPING HIM OR HER TO RECEIVE A SPECIAL EDUCATION. INCREASINGLY, THIS WILL MEAN HELPING TO MODIFY EXISTING SYSTEMS. . . HELPING THEM TO BECOME RESPONSIVE TO ALL CHILDREN."

Based on Dr. Martin's statement, the Third Annual Convention for Behavioral Educators adopted as its theme and title for this report "A Very Special Education For All Children". The stars on the cover show the towns where behavioral educators conducted their work.

The educators who presented their work, as well as those who attended the convention,focused on methods of applying behavior theory principles towards the goal of providing special education for children in their classroom.

The principles and methods of behavior theory are uniquely suited to developing more responsive educational environments for children eligible for special education. A basic assumption is that children's school behaviors are a function of stimuli which precede and follow the behaviors. A major task of school personnel, then, is the identification of those events which increase, decrease, and maintain children's behaviors.

---

*Martin, E. W. Individualism and behaviorism as future trends in educating handicapped children, Exceptional Children, 1972 38, 517-527.

This is an important departure from past assumptions about the behavior of children. In the past, children's behaviors have been analyzed in terms of inferred mental or emotional states such as neurological impairment, innate intelligence, or emotional disturbance. Children whose behaviors departed from the average were then removed from mainstream educational programs and placed with other children whose behaviors were similar. However, the effectiveness of such programs is being seriously questioned. These children have not demonstrated better academic progress than children with similar behaviors who have remained in mainstream educational programs. Moreover, social progress for segregated children has been demonstrably poorer than for non-segregated special children.*

The behavioral model of education proposed by McKenzie** focuses on the learner as an individual in relation to acquisition and maintenance of a set of minimum basic skills and knowledge required to successfully and happily function in our society. This model includes four components: 1) specification of a minimum set of critical instructional objectives; 2) determination of the learner's current repertoire or level of performance in relation to the objectives: 3) delineation of the teaching/learning procedures employed to help the learner reach these objectives; and 4) evaluation of the procedures through precise reliable measures of the learner's progress. Under such a model, the teacher analyzes each student as an individual, as suggested in Figure 1. The learner's responses determine what antecedent stimuli occasion operant classroom behaviors and what consequential stimuli act as punishers and reinforcers. Special education programs would then be any changes in assignments (antecedent events), criteria for acceptable performance (learner's responses), and rewards or punishments (consequent events) which result in accelerating the rate of learning until a minimum rate is achieved. If such prescriptions do not result in the learner's attainment of the objectives, then further changes are initiated.

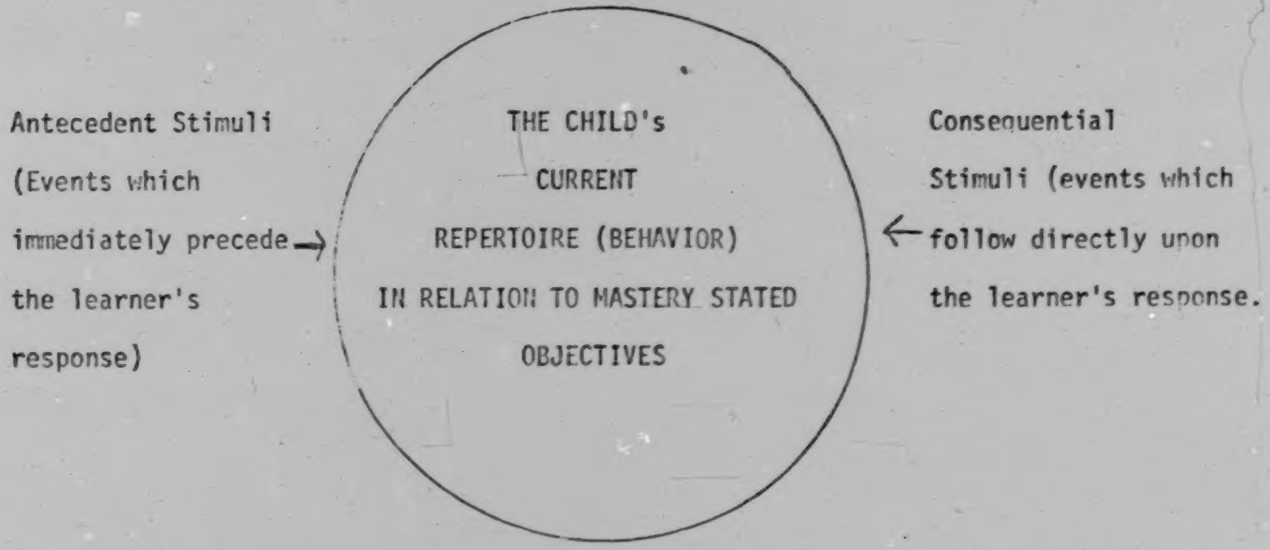
---

* Dunn, L.M. Special education for the mildly retarded - much of it justifiable. Exceptional Children, 1968, 35, 5-22.

** McKenzie, H. S. Special education and consulting teachers. In F. Clark, D. Evans, and L. Hammerlynk (Eds.) Implementing Behavioral Programs for Schools. Champaign, Illinois: Research Press Co., 1972, pp. 103-125.

Figure 1

A BEHAVIORAL EDUCATOR'S DEFINITION OF EDUCATION


Antecedent Stimuli (Events which immediately precede the learner's response)
THE CHILD's CURRENT REPERTOIRE (BEHAVIOR) IN RELATION TO MASTERY STATED OBJECTIVES
Consequential Stimuli (events which follow directly upon the learner's response.

SPECIAL EDUCATION IS ANY CHANGE IN THE ABOVE COMPONENTS THAT MAY BE NECESSARY TO ENABLE A LEARNER TO ACQUIRE AND MAINTAIN STATED OBJECTIVES

In Vermont over the last four years, this behavioral model has been developed through a cooperative effort of the State Department of Education Division of Special Education and Pupil Personnel Services, The Special Education Program, College of Education, University of Vermont; and local Vermont school districts. This cooperative effort has resulted in over 800 applications of the principles and methods of behavior theory to enhance the educational progress of children eligible for special education.

These applications have demonstrated that the existing school system can become more responsive to children eligible for special educational services through the application of the principles and methods of behavior theory. The result is an individualized, accountable, data-based, and child-centered educational system. Teachers, consulting teachers, psychologists, therapists, aides and their administrators have worked together with the parents of eligible children to modify current teaching/learning procedures to assure academic and social progress for those children.

This teamwork results in an individualized educational system where the program is changed to fit the child instead of trying to fit the child into existing programs. The teamwork results in an accountable, data-based educational system because individualized teaching/learning procedures are always evaluated in terms of reliable measures of the child's progress towards achieving critical skills and knowledge. In this way it is child-centered.

The case studies presented at this year's convention are representative of over 300 case studies conducted in Vermont schools during the 1972-1973 school year. Each case study contains a description of the learner and his environment, the behaviors of concern and measurement systems, the individualized teaching/learning procedures, and results in terms of the child's daily performance. It is exciting and reinforcing to view this evidence of such responsive educational systems.

THE IMPLICATIONS OF S-98 FOR THE FUTURE OF SPECIAL EDUCATION IN VERMONT

By

Miss Jean S. Garvin, Director
Special Education & Pupil Personnel Services
Vermont State Department of Education

The following are some highlights from Miss Garvin's remarks at the banquet following the presentations.

On Behavioral Educators -

"Although I don't know each of you personally, I feel a real kinship to behavioral educators"....

...."I admire your talent and expertise in teaching and documenting what your children are learning"....

,,.."I am also grateful, as I am sure the parents of these handicapped children are, that you have taken so much time to care"....

...."We still have a long way to go to meet the challenge presented in the theme of this convention, 'a very special education for every child'"....

...."I have been in groups of special educators from all over the country.... and the group of special educators from Vermont, which includes you, are further ahead in concept, in action, than any other statewide group I know."

...."Special education just has to be the precise application of learning principles to the particular problems of children. It is not a program to shelter handicapped children from the 'real world'.

On Implications for the Future:

> "There is heightened excitement about the potential of children....more knowledge of our teaching potential.... administrators excited about learning".
>
> ...."The new law, formerly S-98, provides for....local school board responsibility....protection for parents.... early essential education....report of all children.... assessment of the quality of programs...."
>
> ...."But laws are only the foundation for action....the guarantee that certain rights cannot be overlooked."
>
> ...."The commitment to implement the law through funding....training....planning....is up to us."

LINGUISTIC SKILLS; A SYSTEMATIC PROCEDURE

By

Suellen Howley, Susan Hasazi, and Mary McNeil

Hasazi* (1970) developed a systematic teaching/learning procedure for reading which included systematic social reinforcement for correct responses and a linguistic training procedure for incorrect responses. The procedure was based on a linguistic, or a word family approach. A word family is a sound pattern which, when combined with other sounds, form a group of words which are similar in sound. For example, cat, rat, and hat are all members of the same word family, the "at" family. The teaching/learning activities included recognizing words in the same family, discriminating words in the same family from other words not in the family, rhyming words in a particular family, writing words, and reading stories made up of words that were learned.

In the Chittenden South School District during the 1971-1972 school year, consulting teachers, consulting teacher aides and classroom teachers have further developed and refined these procedures using the _SRA Linguistic Readers A-C_. These systematic procedures have provided successful learning experiences for many learners in the Williston, Hinesburg, Charlotte and Shelburne elementary schools. We would like you to have the results of two of these learners.

---

* Hasazi, S. Acquisition of reading by a 12 year old boy through a systematic linguistic training procedure, Burlington, Vermont: Special Education Program, College of Education, University of Vermont, 1970.

LEARNERS AND ENVIRONMENT

The students were two 12 year old boys in a 6th year open classroom, in which there were 90 children, 4 teachers and a teacher's aide. B and P were referred because their educational histories were poor and they were academically several years below grade level. Also, their teachers reported a severe lack of self confidence and motivation.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

Reading behavior was defined as an audible, correctly pronounced vocal response, made within 3 seconds of stimulus presentation.

Accuracy of each reading response was determined by the teacher. Throughout the study, correct responses were recorded by recording "+" on the prepared data sheets; incorrect responses were scored as "o". On occasion, the Consulting Teacher served as a second observer, recording data in the same manner. Reliability was 100% on all occasions.

Given a daily one-to-one tutoring session for at least half an hour and The Hasazi-McNeil Linguistic Procedure, the students will learn all 107 word families in the SRA Linguistic Readers with 90-100% accuracy.

TEACHING/LEARNING PROCEDURES

Entry Level Test

Entry level is determined by presenting the ten word cards from each word family in order of appearance in the SRA Linguistic Series and recording + for correct responses and 0 for incorrect responses within 3 seconds of card presentation. (See Figure 1 below.) Entry level is the level at which the student achieves less than 90% accuracy on the ten words in a family. Proceed with the pretest for this family.

FIGURE 1 A PORTION OF THE DATA SHEET USED TO RECORD PUPIL RESPONSES TO FLASHCARDS DURING THE PRETEST FOR EACH WORD FAMILY

WORD SHEET NO. 1

NAME Della

DATE 12/3/71

Story No.	Word	Pre	Post	Pre
A-1	man	+	+	+
	Dan	+	+	+
	ran	o	+	+
	fan	o	o	o
	can	+	+	+
	Nan	o	+	+
	pan	o	o	o
	tan	o	o	o

Probe Tests

Probe tests are given monthly to determine whether linguistic training for certain word families can be omitted. The key word card for each word family is presented in order of appearance in the *SRA Linguistic Series*. As shown in Figure 2, a plus (+) is recorded for correct responses and a zero (o) for incorrect responses within 3 seconds of card presentation. Linguistic training for the word families for which a correct response was recorded is omitted.

FIGURE 2. A PORTION OF THE DATA SHEET FOR RECORDING PUPIL RESPONSES ON THE PROBE

LINGUISTIC PROBE

NAME J B.

DATE 9/5/71

NO.	WORD	PUPIL RESPONSES
A-1	Fan	+
A-2	Dad	+
A-3	bag	o
A-4	cat	+
A-5	cap	o

LINGUISTIC TRAINING SESSION

1. *Pretest on word family*

Present the word family card. (e.g. "This is the *an* family. The letters *a* and *n* make the sound *an*. Say *an*." The student says *an*).

Present the key word card. (e.g. "This is *fan*. *Fan* is in the an family. Say fan." The pupil says fan.)

Present the nine remaining word cards in the word family with no prompting or feedback. Record correct responses as + and incorrect responses as o as shown in Figure 1. If the pupil responds correctly within 3 seconds to eight of the nine cards the student reads the corresponding story in the book. If he achieves 90-100% oral reading accuracy proceed to the next word family in the same manner. If the pupil responds correctly to fewer than eight word cards or achieves less than 90% oral reading accuracy, present the family and key word as above and proceed to discrimination training for that word family.

2. Discrimination Training

Say the words in the first row (see pupil worksheet in appendix) one containing the word family and one not containing the word family. (e.g. Man, mat) Instruct the pupil to say each word that contains the word family (e.g. an) and to be silent when he hears a word that does not contain the word family. If the pupil responds correctly within 3 seconds to 9 out of 10 pairs of words, proceed to rhyming. If the pupil responds correctly to fewer than 9 pairs, present the word family card (e.g. an) as in the pretest.

3. Rhyming

Say to the pupil, "I would like you to write words that rhyme. Do you know what rhyme means?" If he answers negatively say, "Rhyme means that two words end in the same sound. Can you think of a word that rhymes with log? If he does not respond or responds incorrectly, say, "Dog." Tell me another word that rhymes with log." Repeat until the pupil emits an unprompted correct rhyming response.

Instruct the pupil to write and say three words that rhyme with the key word (e.g. fan. See pupil worksheet in appendix). If the pupil does not correctly write and say three words that rhyme with the key word, repeat step 1, 2 and 3. (When repeating step 3 use a word other than the key word.) If the pupil correctly writes and says three words that rhyme with the key word proceed to word building.

4. Word Building

Print the word family (e.g. an) after the first three consonants (See pupil worksheet in appendix). Instruct the pupil to print the word family after the remaining 14 consonants and to read the words he has written (nonsense words are acceptable). Plus (+) is recorded if the appropriate family is added to the consonant or if the pupil reads the word correctly preceded by no more than a 3 second pause. Zero (o) is recorded if the appropriate family is not added or if the response is preceded by more than a 3 second pause. If the pupil achieves 90-100% accuracy (13 or 14 correct responses) proceed to the post-test. If he achieves less than 90% accuracy repeat steps 3 and 4.

5. Post-test

Present the ten words in the word family with no prompting or feedback. Record correct responses as + and incorrect responses as o. If the pupil responds correctly with 3 seconds to nine of the ten presented cards. If the pupil responds correctly to fewer than nine cards, training procedures are repeated.

6. Oral Reading

Instruct the pupil to read the corresponding story. If the pupil pauses for more than 3 seconds or responds incorrectly, record a o, point to the word, say the word and instruct the pupil to say the word. To compute oral reading accuracy, subtract the number of incorrect responses from the total number of family words in the story. Divide this number by the total number of family words in the story and multiply by 100.

APPENDIX
PUPIL WORKSHEETS
FOR

BOOK A, STORY 1

Discrimination

man	mat
dat	Dan
ran	rap
fan	fun
cop	can
Man	nun
pat (Pat)	pan
tan	tin
ban	van
	bun

Rhyming

Write three words that rhyme with fan.

1.

2.

3.

Word Building

b

c

d

f

g

h

j

k

l

m

n

p

r

s

t

v

w

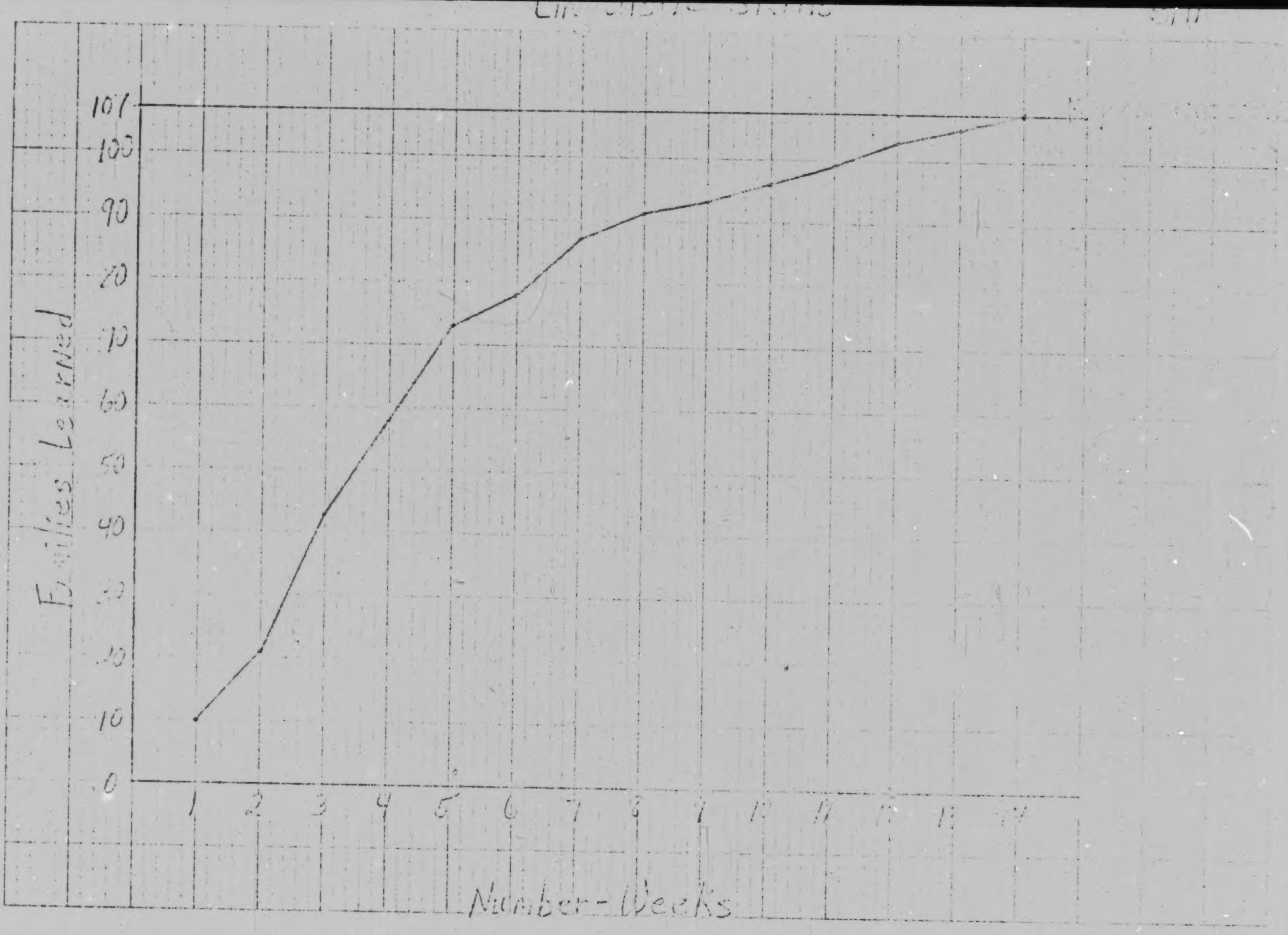
Oral Reading

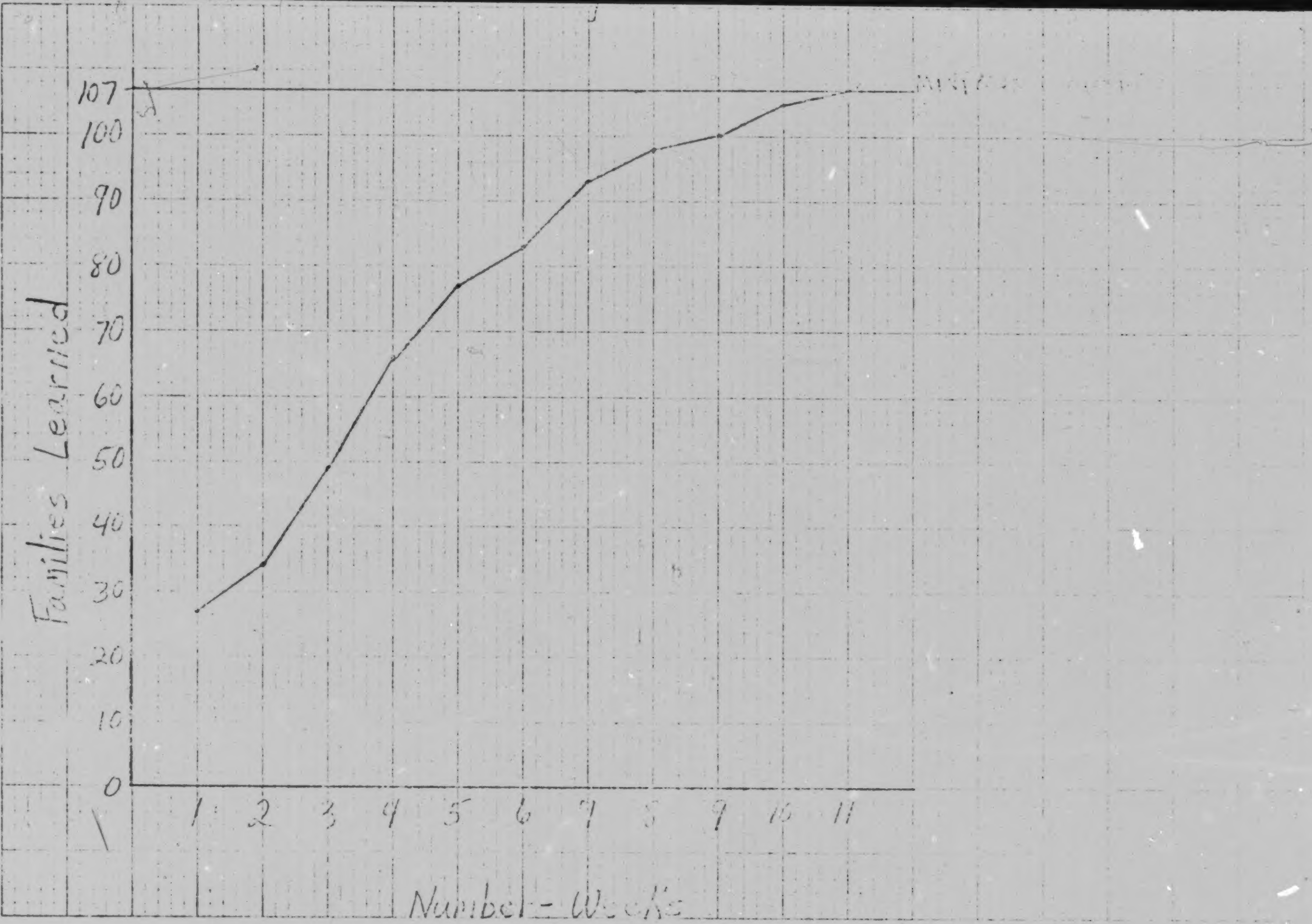
Let's read the story together. Pages 2, 3, 4, 5, 6, 8, 9, 10, 11, 12.

RESULTS

Previous to training in The Hasazi-McNeil Linguistic Procedure, both B and P had functioned at the 1.4 grade level in reading. With this training, both students learned all 107 families in the SRA Linguistic Readers with 90-100% accuracy, and completed levels A, B, and C of the SRA Linguistic Readers with 90-100% oral reading accuracy. According to the latest probe test results, both students are maintaining 100% accuracy. B 's reading accuracy is currently at 6.9, and his comprehension is also at 6.9 level. P 's reading accuracy and comprehension are both currently at 6.8. Figure 1 shows the number of word families learned per week.

Teachers and administrators have reported that the attitudes of both B and P have improved tremendously, not only academically, but socially as well. They are more willing to work, and have "much nicer self-images." They have suggested a similar program in math for next year.


Families Learned
107
100
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Number-Weeks


Families Learned
107
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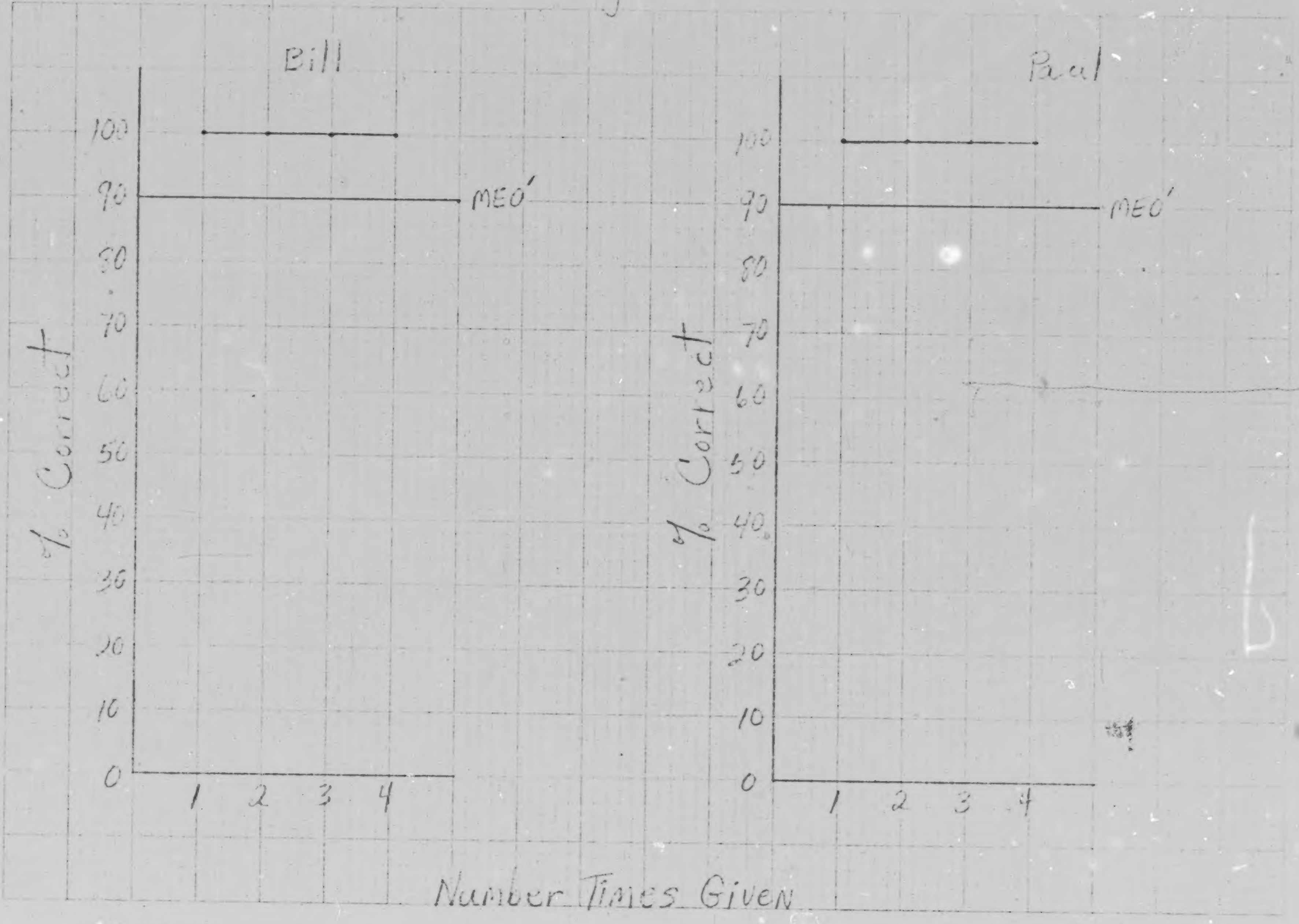
7
8
9
10
11
Number - Weeks

Linguistic Probe



ELIMINATION OF BELLIGERENT AND TRUANT BEHAVIOR FOR A PREDELINQUENT BOY

By

Robin Peterson, Mary Pree, Susan Hasazi, and Mary McNeil

LEARNER ENVIRONMENT

Jack was an 11 year old boy in a 6th year open space classroom, in which there were 69 children and 3 teachers. He was referred as a result of truant behavior, general attitude of non-compliance, and severe academic deficits.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

Participating behavior was defined as face oriented toward teacher and/or assigned materials. This behavior was observed at 3 minute intervals during the same half hour each day. Days on which Jack completed assignments were also recorded.

To insure reliability of these measures, the consulting teacher served as a second observer on at least one occasion during each condition. Reliability was 100% on all occasions.

TEACHING/LEARNING PROCEDURES

Individualized prescription packets were designed for Jack. They included a schedule for the day and assignments from such materials as Sullivan Programmed Math and Reading, The New Practice Readers, Reading for Comprehension, and individually planned units in Social Studies and Science. Activities such as recess, music, lunch, and physical education were also listed on the daily prescription sheets. Upon completion of each assignment, the teachers initialed a card in the prescription packet. When the entire packet was completed, the initialed card was sent home. Two completed cards earned a conference with a consulting teacher. Six completed cards earned a trip of his choice with a consulting teacher. Trips chosen included canoeing, movies, hockey game, lunch at McDonald's and a visit to the police station.

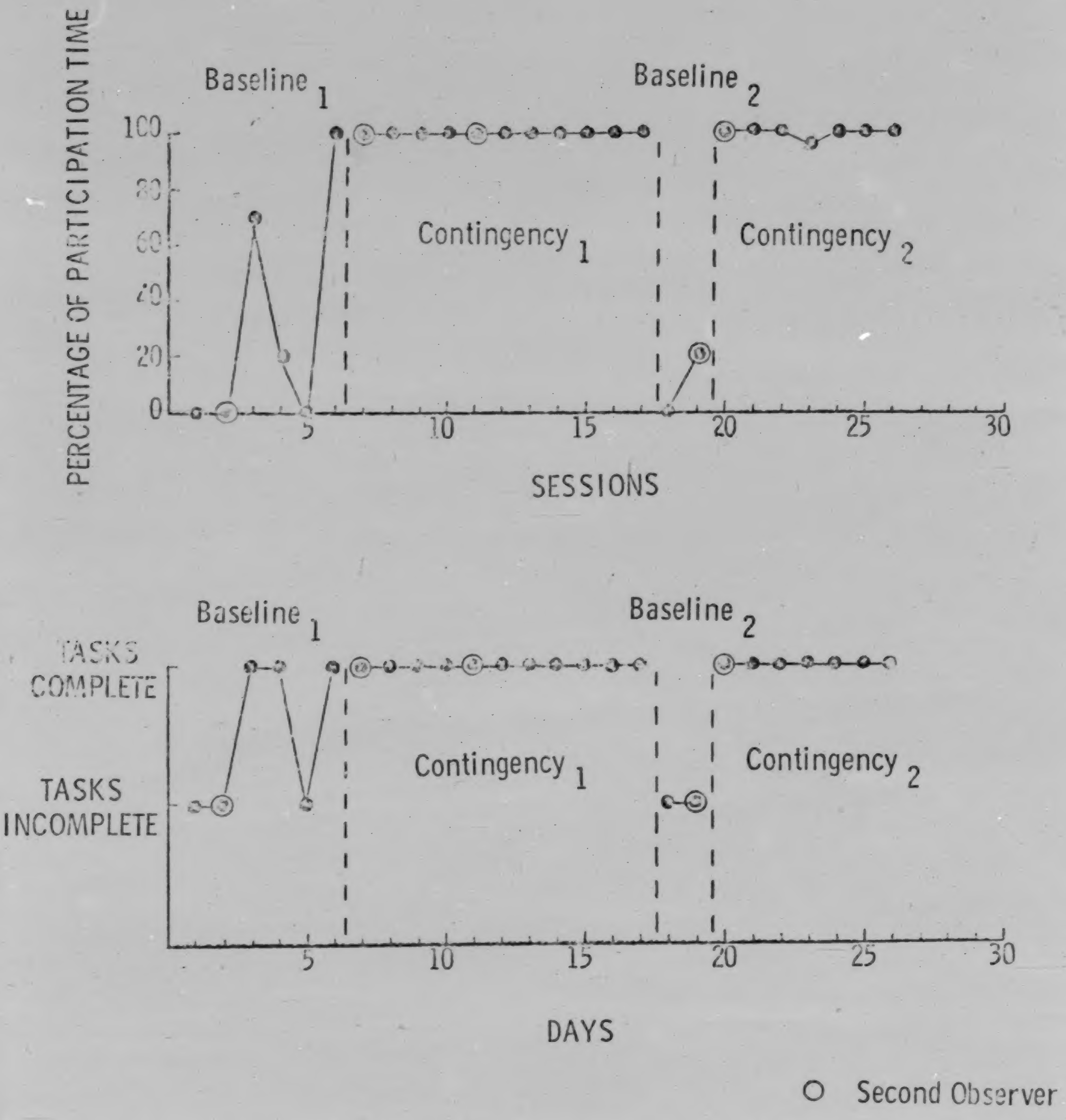
RESULTS

Figure 1 shows that during baseline 1 and 2, when the procedure was not employed, J 's participating time ranged from 0-100% per half hour session while task completion was variable. During contingency 1 and 2, J 's % of participating time maintained at 100% and tasks were completed consistently.

Teachers and administrators have reported that J is now a "model" student. They have suggested expanding the program to include behaviors such as smiles, conversing with adults, and sharing with peers.

Currently the schedule of reinforcement is being thinned.

JACK


PERCENTAGE OF PARTICIPATION TIME
Baseline 1
Contingency 1
Baseline 2
Contingency 2
100
80
60
40
20
0
5
10
15
20
25
30
SESSIONS
Baseline 1
Contingency 1
Baseline 2
Contingency 2
TASKS COMPLETE
TASKS INCOMPLETE
5
10
15
20
25
30
DAYS
○ Second Observer

A FOURTH AND FIFTH GRADE INDIVIDUALIZED READING PROGRAM UTILIZING TEEN TUTORS

by

Harriet Klann, Helen Kinsman, Cheryl Martin, and Alex Robbins

LEARNERS AND ENVIRONMENT

In the fall, a regular classroom teacher had 14 students in her reading class. This class was the lowest group of 7 reading groups for students in grades 4-6. Scores on the Otis Lennon IQ tests ranged from 76-92. Fifty percent of the students had been retained at least once, and of those not retained, many had been given "social" promotions year after year. The classroom setting was typical of any intermediate classroom.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

To determine the reading level, each student was given a vocabulary probe using every 5th word in the Ginn reading series-Pre Primer through Book 2[1]. When the student missed 5 consecutive words, he was given a complete vocabulary test using every word in that particular section of the book. These tests lasted no longer than 5 minutes.

Flash cards were then made for those words missed and placed in an individualized packet with data sheets. The data sheets listed each word in order of appearance in the book. By each word was a space to record the learning session the word was introduced and a space to record the learning session the word was introduced and a space to record the learning session the word was learned. Also, the words were sectioned off by stories with the corresponding pages in the reader.

TEACHING/LEARNING PROCEDURES

After discussing the necessity of providing for acquisition of new vocabulary for each student during reading class, the classroom teacher and consulting teacher arranged through the high school guidance counselor to have volunteer high school students assist each day.

VOCABULARY TRAINING

Since each student had his own individualized packet, the tutor had all the materials and instructions necessary to work with the child without requiring teacher help. The teacher, consulting teacher or consulting teacher aide periodically took reliability checks on the tutors' procedures and accuracy of recording.

The tutor worked on a one-to-one basis with a student. The first thing a tutor did was to record on a data sheet the date, session number, and her name. The tutor then presented ten flashcards one at a time to the student and recorded the student's responses with a plus for correct and a zero for incorrect responses. After they had gone through the flashcards in this manner, the tutor removed any words with two consecutive plusses. These "learned" words were placed in a white envelope and the number of "learned" words and the session number was recorded on the data sheet. Because the "learned" words were placed in the envelope, after the class was over, the consulting teacher aide or teen tutors could recheck for accuracy to insure that each learned word had met the criteria of two consecutive plusses.

The tutor replaced the exact number of "learned" words removed with words taken from the new word stack. A word game was then played three times. During the game, words were again presented one at a time. The tutor praised a correct response, and gave an immediate prompt if incorrect.

ORAL READING ACCURACY TRAINING

When the student had learned every word for a particular story, he was then asked to read the story. He orally read the first one or two pages to the tutor who circled any errors and recorded the number of errors on the data sheet. The tutor corrected any errors for the student. The student silently read the rest of the story to himself. The tutors were then free to work with another student.

COMPREHENSION

When each student finished his story, he came to the classroom teacher for 5 comprehension questions. She had a book with five comprehension questions and answers for each story (compiled by the Consulting Teacher Program*) for the entire Ginn Readers. She recorded the story number and the student's responses to those questions (plus (+) if correct, zero (0) if incorrect) on a class data sheet.

RETENTION

At every tenth session, later changed to once a week, a retention test using 20 word cards randomly chosen from a student's entire stack of "learned" words was given to each student.

ACTUAL GRADE LEVEL READING PROBES

Once a week each child was given the opportunity to read a 200 word passage from a book at his actual grade level. After achieving a 90% or better score for reading accuracy for two consecutive weeks, the student was placed in actual grade level material for daily lessons and the flashcard procedure was stopped.

POINT SYSTEM

A point system was devised whereby "learned" words, correct comprehension responses, retention test scores, workbook pages satisfactorily completed and reading probes merited various point values. Points were saved and exchanged for paper-back library books which each student

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*Burdett, C. and Fox, W. *Reading Procedures*. Burlington, Vermont: Special Education Program, College of Education, University of Vermont, 1971.

had previously selected.

RESULTS

The following graphs depict representative results of the above procedures. Nine of the fourteen students are now reading material at actual grade level and accurately completing the corresponding workbook pages.

FIGURE 1 illustrates in years the academic progress as demonstrated by oral reading accuracy a student has demonstrated in relation to the number of years in school. Point a. indicates that T had been in school 4 years but demonstrated first grade reading skills. Within 7 months his vocabulary recognition, oral reading accuracy and comprehension skills improved to the 4.0 grade level.

FIGURE 2 illustrates the effectiveness of the flashcard procedures employed by the teen tutors. Each bar shows the percentage of correctly read words in a particular text. The clear bar represents the percentage of correct responses before the tutors used the flashcard procedures. The solid bar represents the percentage of correct responses after the tutors used the flashcard procedures.

FIGURE 3 depicts the effectiveness of the point system in improving accuracy on comprehension of daily reading assignments (top graph) and retention tests (bottom graph).

FIGURE 4 shows percentage correct on actual grade level materials after week 26, this pupil could work on daily assignments on grade level material. Report card grade for each marking period are recorded at the bottom.

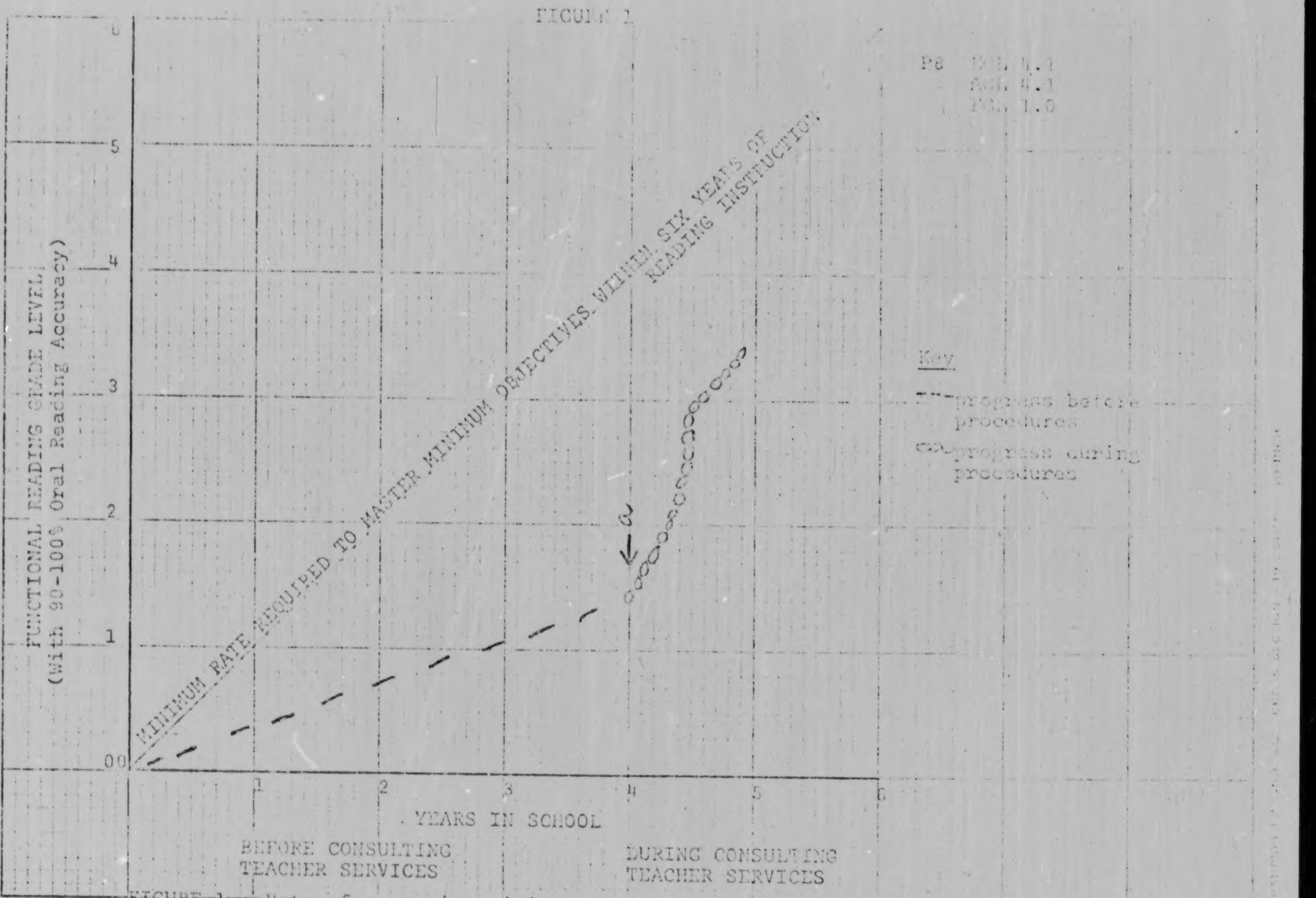


FIGURE 1.—Rate of mastering minimum reading objectives before and during consulting teacher services.

FIGURE 2

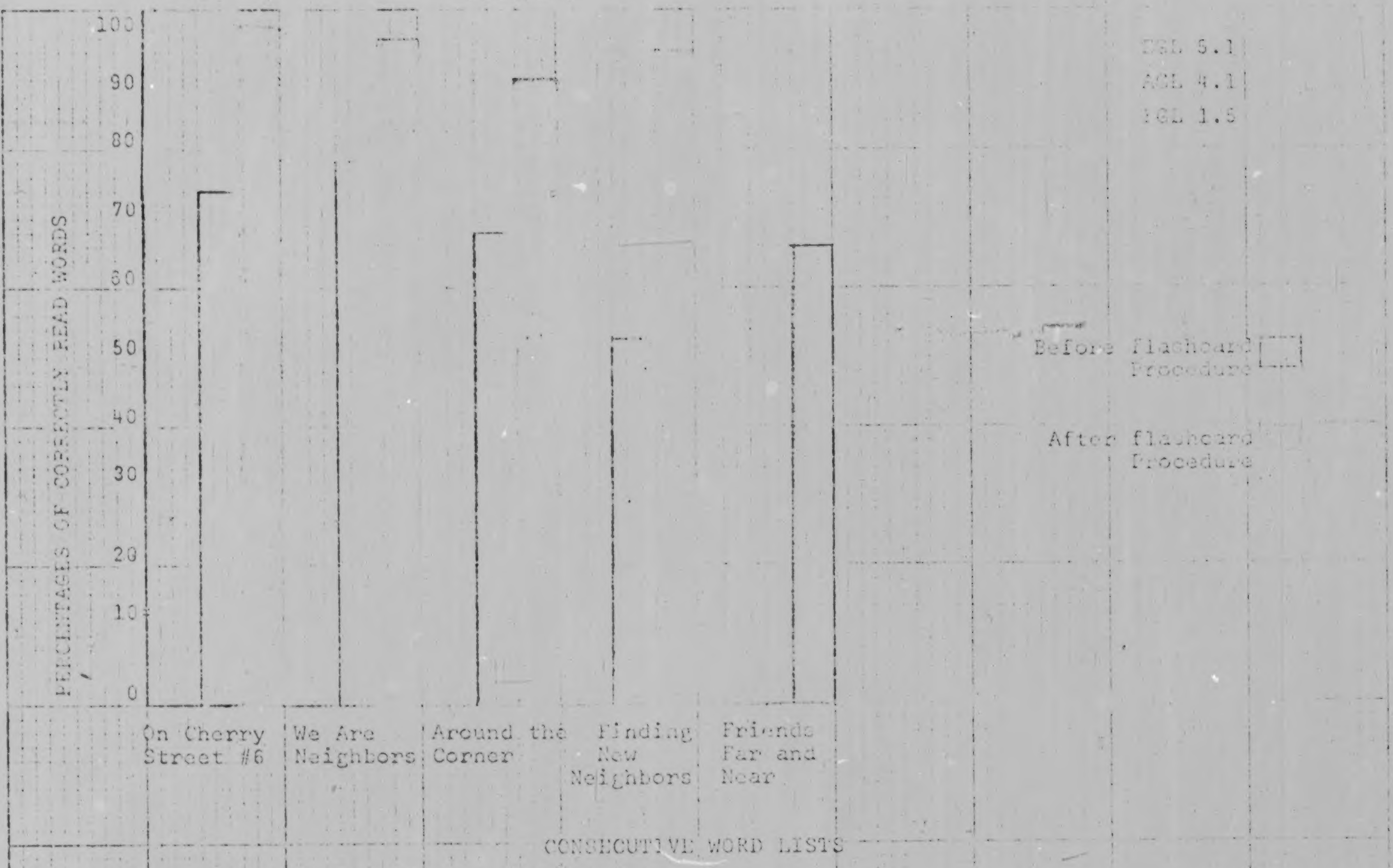


FIGURE 2. Word recognition performance before and after teen tutor flashcard procedures.

CHAMPION LINE NO. 642 • CROSS SECTION • 10 SQUARES TO INCH

FIGURE 3

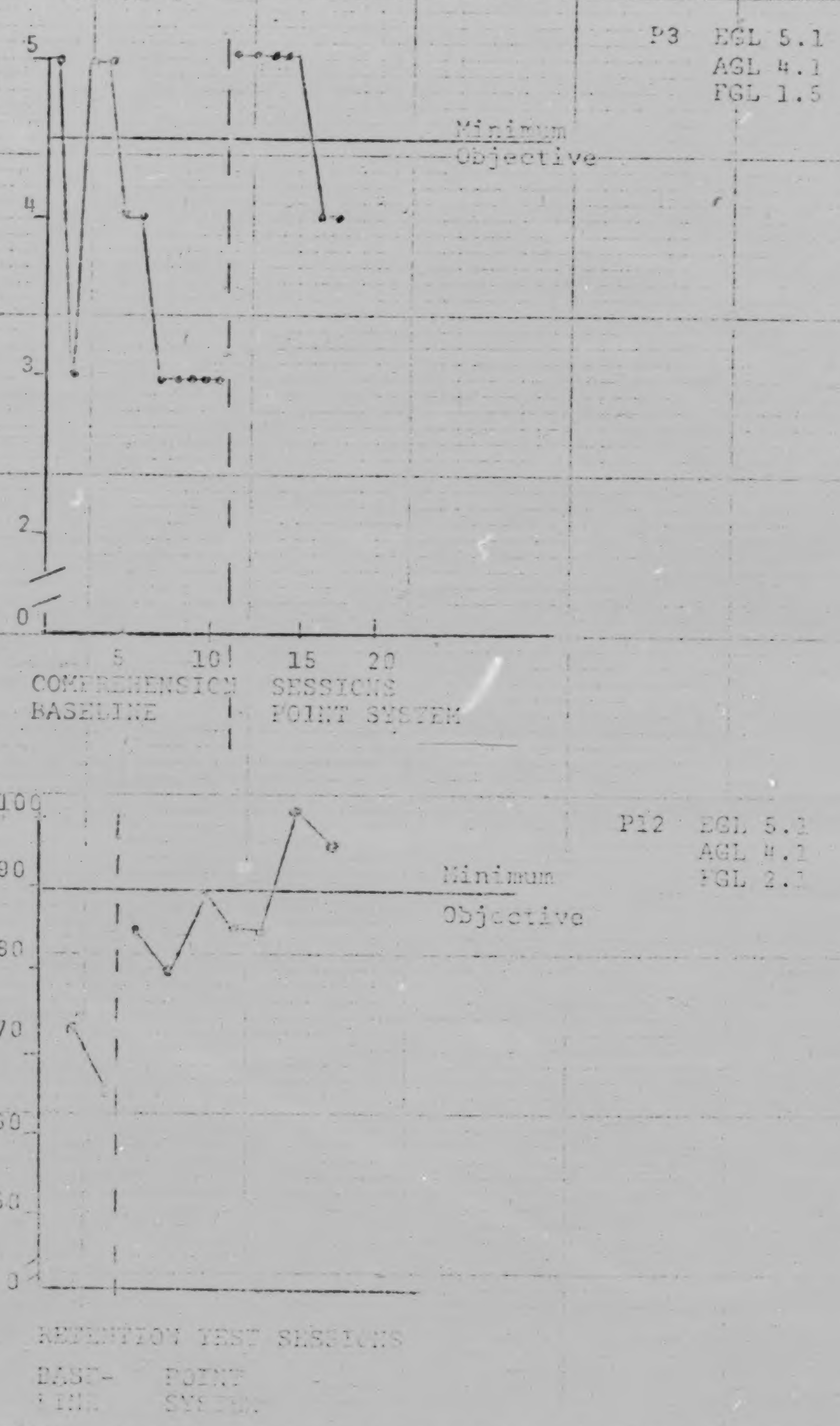
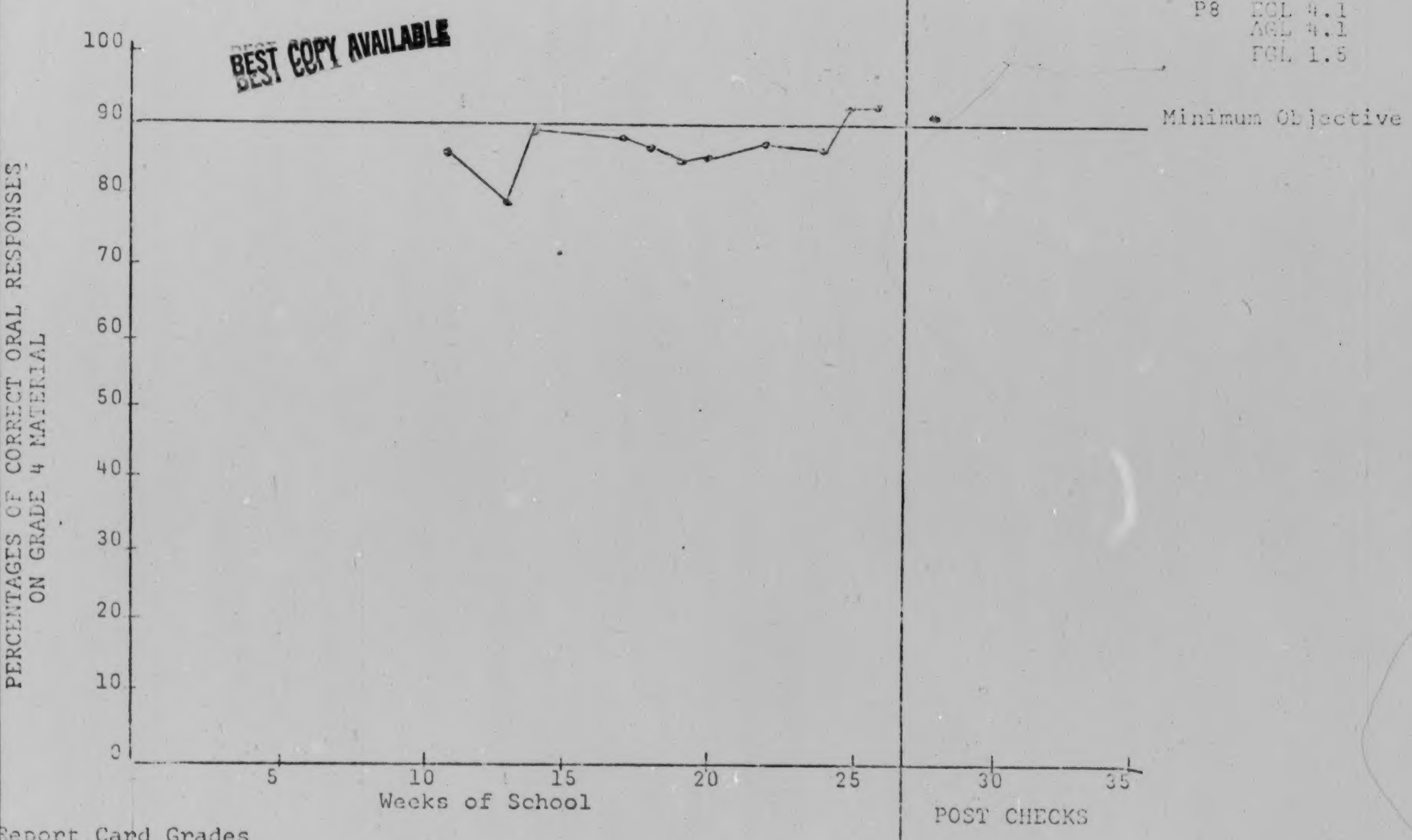


FIGURE 3. The effects of a systematic point system on comprehension (P3) and retention (P12).

FIGURE 4



Report Card Grades			
English	C	C	B
Arithmetic	C	C	C
Social Studies	C	B	B
Science	D	C	B
Spelling	D	C	B

FIGURE 4. Oral reading accuracy on goal grade level material during weekly probes.

The chart at the bottom of the page summarizes the progress made by each student. The Expected Level indicates (in years and months) at what grade level the student should be functioning in relation to the number of years he has attended public school. The Baseline Level indicates what month consulting teacher services began and the highest grade level (in years and months) the student performed at 90% accuracy. The Present Level represents the grade level at which the student is currently functioning at the 90% accuracy level (for oral reading accuracy, comprehension and completion of accompanying workbook pages).

In addition to their improved reading skills, the students' attitudes about school and their academic abilities appeared to change from a negative or indifferent one to a positive one. They smiled more and appeared more eager and enthusiastic to get on to the next book. Report card grades in spelling and social studies also indicated improvement as a function of these systematic procedures.

LUDLOW CONSULTING TEACHER PROGRAM

STUDENT	EXPECTED LEVEL	BASELINE LEVEL	PRESENT LEVEL (MAY)
1	4.9	(Sept.) 1.0	3.3
2	6.9	(Sept.) 1.0	3.9
3	5.9	(Sept.) 1.5	5.2
4	6.9	(Sept.) 1.5	5.2
5	5.9	(Sept.) 1.5	5.1
6	6.9	(Sept.) 2.1	5.2
7	4.9	(Sept.) 1.5	4.1
8	5.9	(Sept.) 1.5	4.1
9	5.9	(Sept.) 2.1	5.3
10	5.9	(Sept.) 1.5	5.0
11	5.9	(Sept.) 1.5	3.2
12	5.9	(Sept.) 1.5	5.0
13	4.9	(Sept.) 2.0	4.4
14	5.9	(Sept.) 3.5	3.5
19	8.9	(April) 1.0	1.5

TRAINING A STUDENT TEACHER TO GIVE CONTINGENT PRAISE FOR GOOD BEHAVIOR
(or Teaching a New Dog Old Tricks)

by Rosemary Getsie, Renee Comeau, Deborah Giddings, and Lu Christie

LEARNER AND ENVIRONMENT

Peter was an 8 year old boy in a heterogeneous 3rd grade class of 22 children. Previous teachers had reported that Peter was "over-active", "insecure", and "immature". On a group I.Q. test administered in November, he scored 89.

BEHAVIORS OF CONCERN AND MEASUREMENT PROCEDURES.

Peter was referred because of incomplete assignments, poor academic performance, and behaviors incompatible with studying, such as frequent out-of-seats, playing with objects on his desk, and looking everywhere but at his assigned work.

Percentages completed and correct of total responses on daily mathematics and language arts assignment were recorded daily by the teacher. A second observer checked one day's work each week with complete agreement.

Attending behavior was defined as face oriented toward work materials, obtaining help with an assignment, or getting or putting away work materials. Samples of attending behavior were recorded at ten 2-minute intervals during an independent work period each day. On 16 occasions a second observer also measured attending behavior. Agreement ranged from 80-100%, interval by interval, with a mean of 98% agreement.

TEACHING/LEARNING PROCEDURES

The following instructional objectives were set for Peter:

80-100% attending behavior

80-100% assigned math and language arts work complete and correct.

Two consequences for target behaviors were introduced:

1. A 3 x 5 card was placed daily on his desk which listed his written assignments. As each assignment was completed P brought his work to the teacher for immediate correction, a "smiling face" on the appropriate section of the card, and teacher praise. When all assignments were completed P could visit the library. The card was taken home daily for parent feedback.
2. Personal praise by the teacher for attending behavior during the independent work period. For example, "P , you're really working hard!"

RESULTS:

Attending (See Figure 1)

During baseline, P attended an average of 42% of the time. The card procedure, introduced on day 9, resulted in little change in attending. On day 21, the teacher began praising P while he was attending, saying his name, rather than always praising the group as a whole. Attending increased to an average of 83%.

On day 36, a student teacher took over the classroom and the measurement procedures. She was not using contingent praise and P 's attending dropped to 60% for 2 days. She reported that he seemed confused and uncooperative.

On day 41, after explicit instructions, the student teacher began systematic praise for P 's attending behavior. His attending averaged 78%.

Four monthly post checks of attending since the systematic praise procedures were reduced indicated that P 's performance has maintained with an average of 85% and a range from 80-90%.

Percent Complete and Correct in Math (see Figures 2 & 3) and Language Arts (see Figures 4 & 5):

During baseline Peter completed an average of 33% of his math, with 30% correct, and 16% of his language arts, with 11% correct. The card procedure was introduced on day 9. On day 21, praise contingent on attending was begun. On day 30, Peter began receiving his card only 2 days each week, at his request. On day 36, the student teacher took over the class. On day 41, she began the contingent praise procedure. Throughout the contingency period, Peter's percent complete in math averaged 91%, with 74% correct, and 90% complete in language, with 73% correct. Post checks show 100% completion in both subjects, ranging from 80-95% correct in math, and 88-100% in language arts. Variability occurred in the academic behaviors when praise was not contingent on Peter's attending.

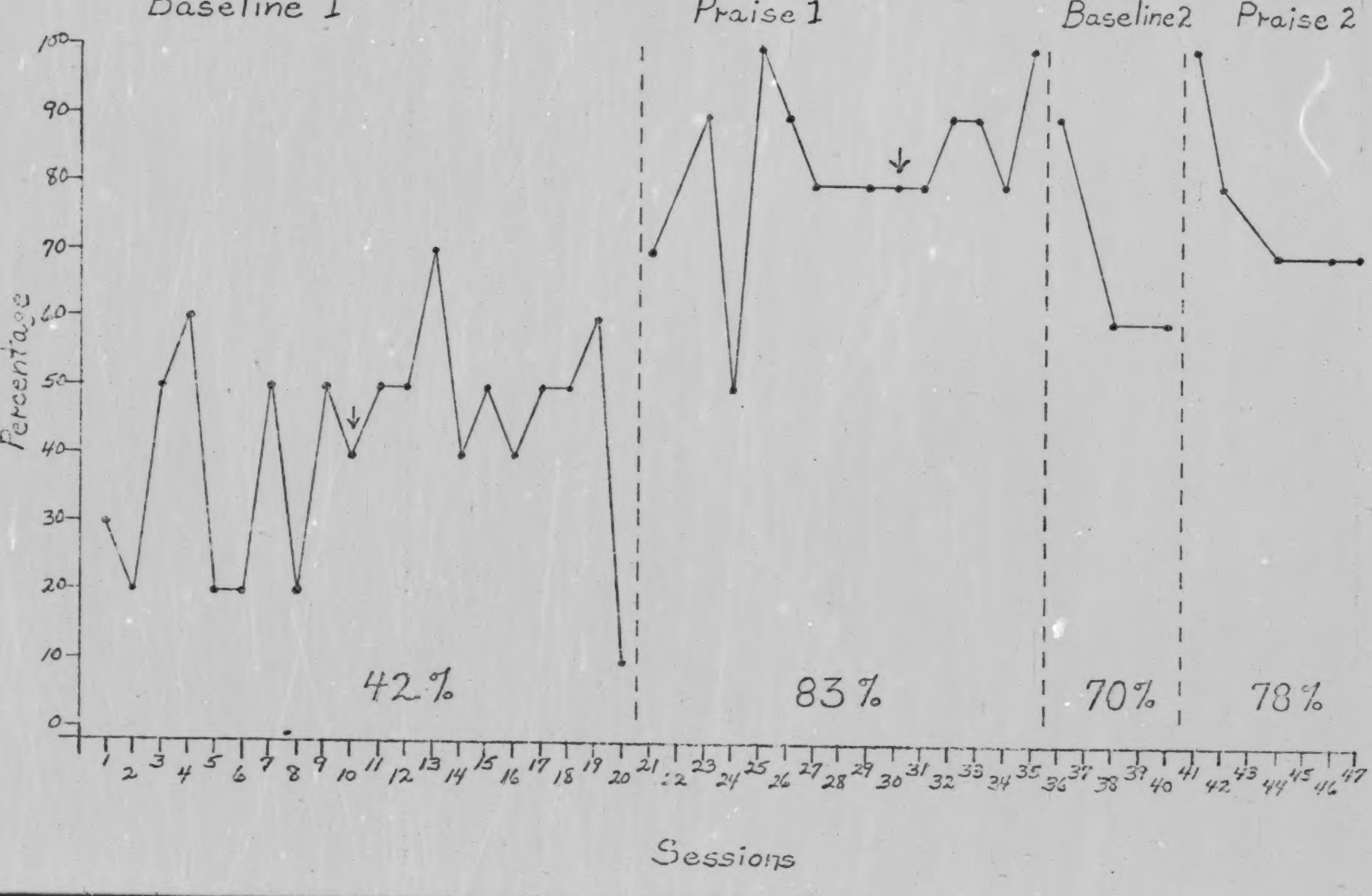
Discussion:

It is apparent from the data that consequences provided specifically for academic work were more effective when teacher-praise was delivered for the pre-academic behavior of studying, and that study behavior increased only when specific consequences were provided for that behavior. Peter has met the minimum objectives for his class and will be promoted to 4th grade. The student teacher said that her work with Peter was the highlight of her student teaching experience. Peter is happy, too.

R G

Attending

Student Teacher



Rosemary Getsie

EJ 43-71

Math

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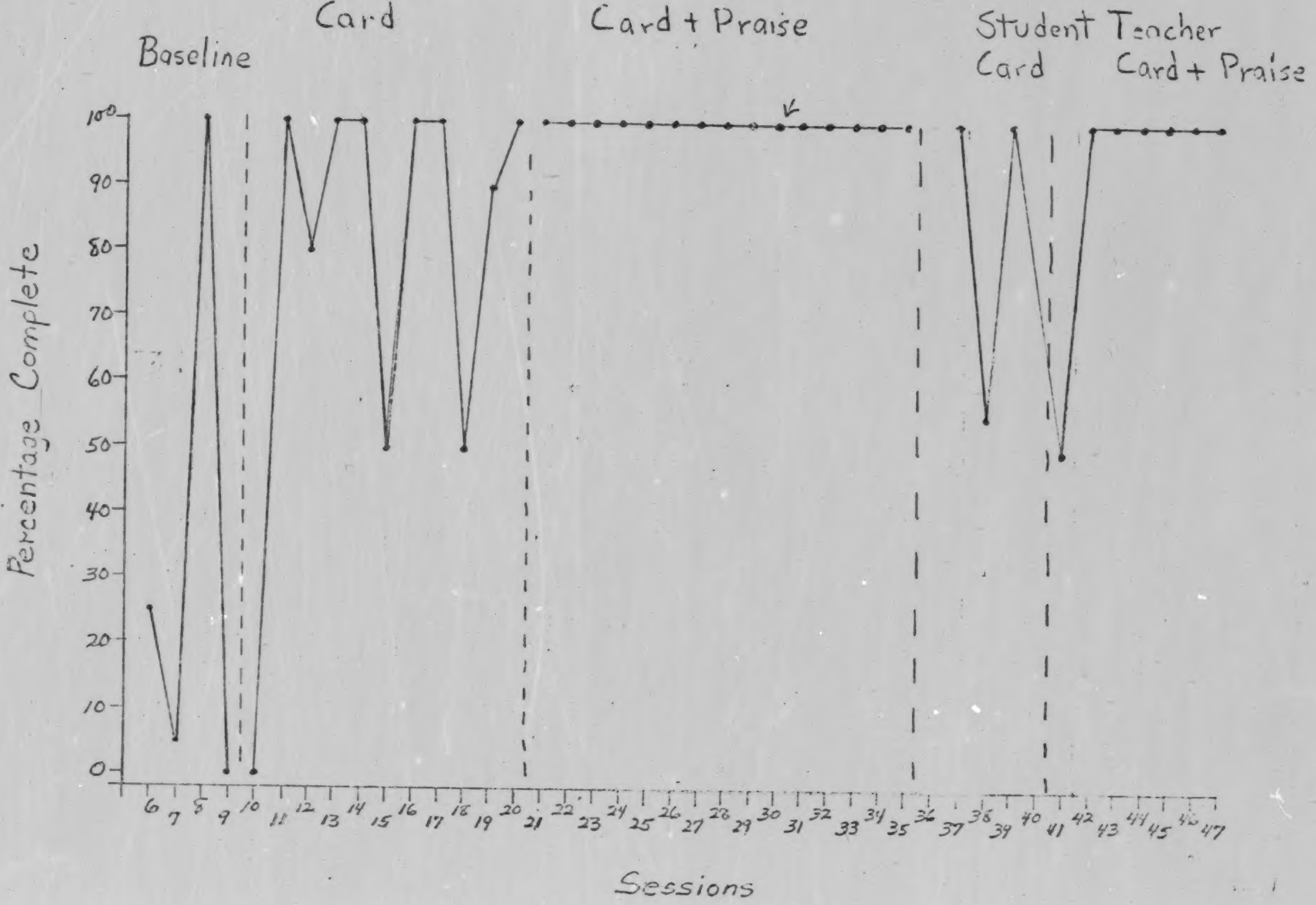

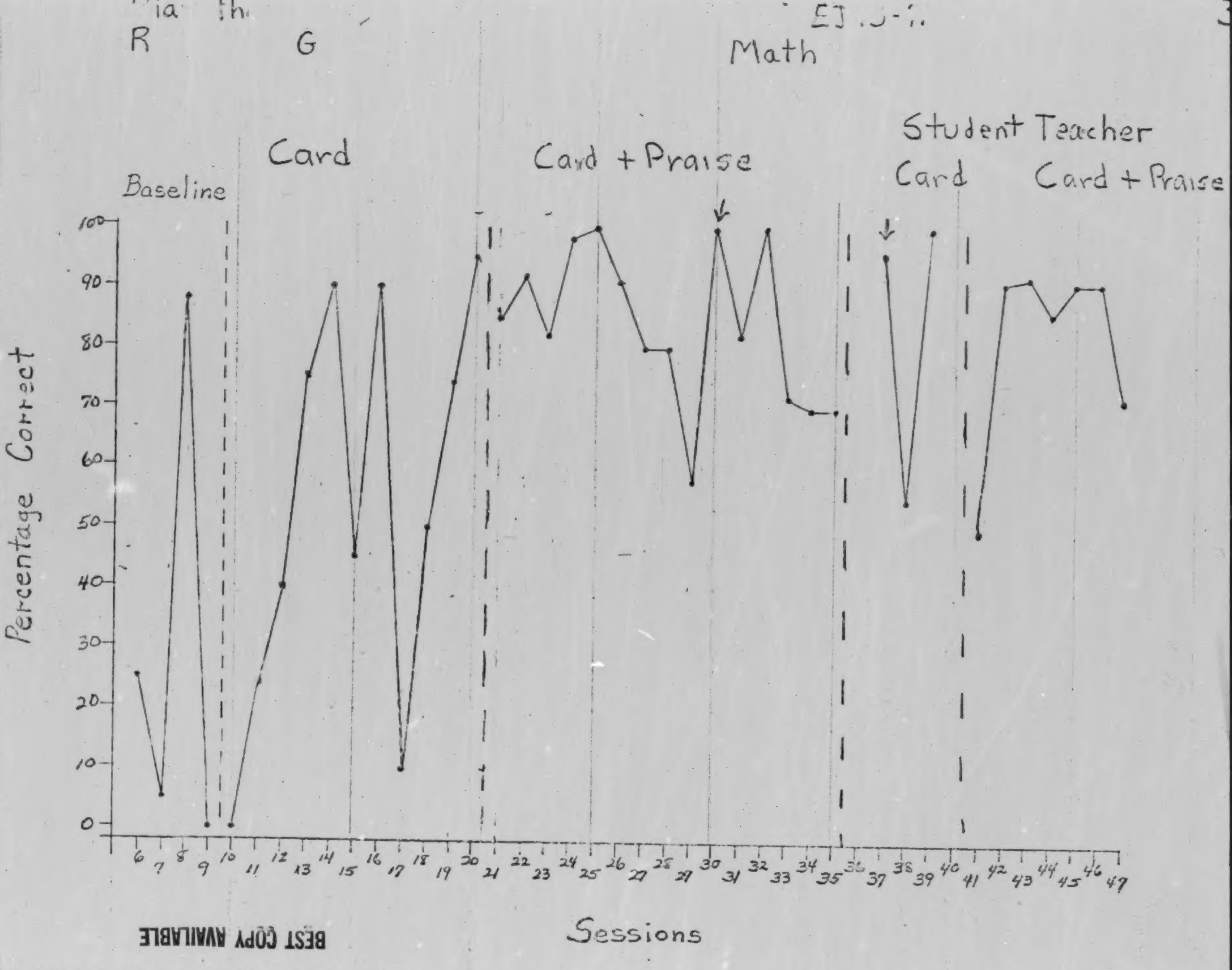

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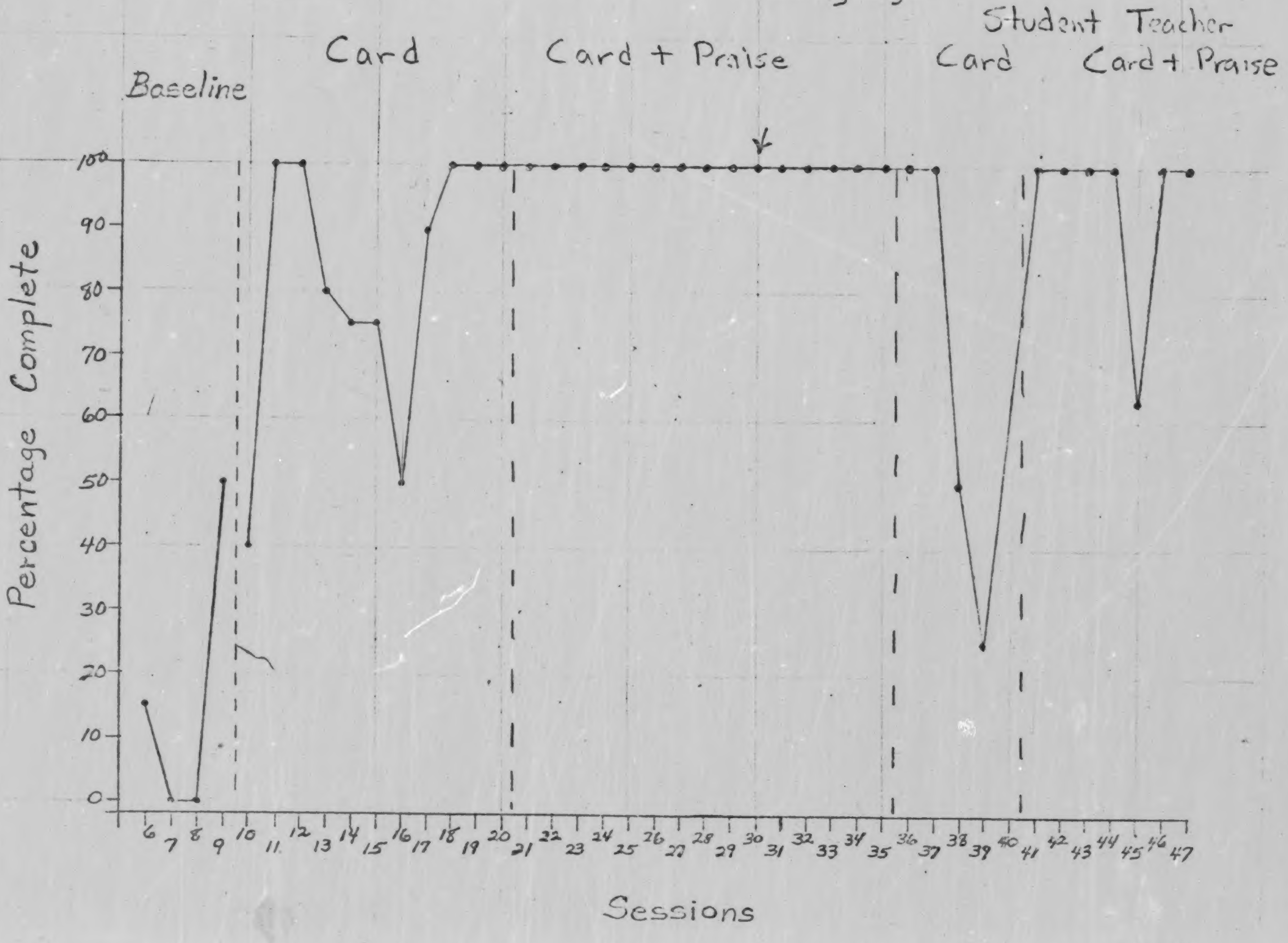
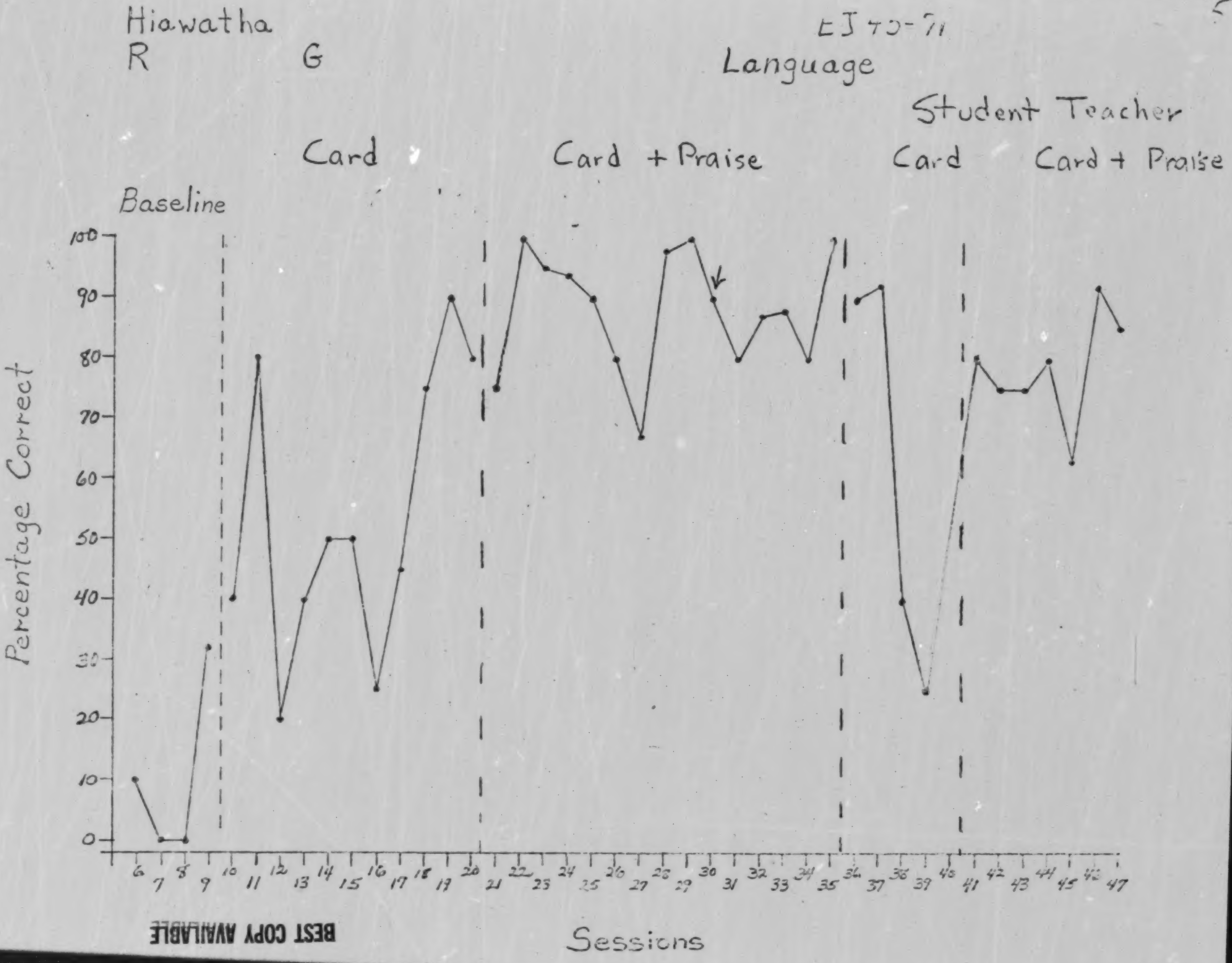
Sessions

Hiawatha
Rosemary Getsie

EJ 43-71
Language

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Sessions

AN INDIVIDUALIZED LANGUAGE ARTS PROGRAM
TO ACHIEVE MINIMUM OBJECTIVES
FOR FIVE FIRST GRADERS

by

Brenda Bristol, Annabel Bates, Ermanno Ritschl, and B. J. Lates

LEARNERS AND ENVIRONMENT

Five first grade children in two classrooms were served through an individualized language arts program. The two classroom teachers and a consulting-techer-in-training first derived minimum objectives to be attained by the end of first grade.

BEHAVIORS OF CONCERN

Speaking:

Given three pictures from Level III, the student will orally describe, with a minimum of one sentence, each picture using correct syntax (subject, predicate, object) within 10 seconds with no teacher prompts.

Oral Reading:

Given three pages in On Cherry Street (Ginn First Reader), the student will orally read the words with 90-100% accuracy and spend no more than 5 seconds on each word.

Comprehension:

Given any story in the Ginn First Reader (On Cherry Street), the child will be able to answer five comprehension questions with 80% accuracy.

Spelling:

Given any 10 three letter words from the Ginn PrePrimer the child will be able to correctly print those words within 5 seconds at 90% accuracy with no teacher prompts.

Writing:

Given three pictures, the student will print a minimum of one sentence for each picture using correct syntax (subject, predicate, object) beginning with a capital letter and ending with a period with 90% accuracy.

Penmanship:

Given three sentences to copy, the student will print the model sentences on primary composition paper within specified lines with proper spacing with 90% accuracy.

MEASUREMENT PROCEDURES

Entry level measures were obtained for the children. After the correct instructional level was found, a daily program was prepared for the children.

8:45 Given a sentence to copy the student will print on primary paper within specified lines the model sentences with proper spacing. Given "word box" the student will print a sentence using known words with proper spacing.

9:00 to 10:00 Using "word card procedure" the student is shown 5 words. These are each presented 3 times and a "+" is given for each correct response and a "0" for each incorrect response. Peer-tutor implements "word card procedure" for words not learned in the above procedure. Oeer-tutor presents three, 2 or 3 letter words orally. Student reproduces word if known. If unable to reproduce word, peer shows student word and student copies it.

Given workbook student does specified pages. At 9:55 these are checked for accuracy by the teacher.

12:45 Student is given a story to read which contains his learned words. He reads silently 3 days a week, then responds orally to 5 comprehension questions.

Student reads orally 2 days per week and reading accuracy check is made. Then 5 comprehension questions are asked.

Student is given worksheets that accompany story read.

1:15 On Monday

Student is given a picture and a sheet of paper. He is asked to write a story, one or more sentences, using correct syntax,

RESULTS

J

J was given reading readiness materials for the first six months of school. At the end of February, the Ginn readiness test was given and the results indicated that he should be placed in the first preprimer (Ginn). In the next two months, J completed the three preprimers and continued working in the primer, Little White House. It was predicted by J 's teacher that he would have remained in reading readiness material for the entire year had an individualized language arts program not been implemented. At the beginning of March the individualized program was implemented. Figure 1 shows J 's rate of learning through April. The diagonal line suggest the minimum rate of learning in order to complete the minimum objectives for first grade children. Had J continued in reading readiness the projected deficit by June would have been close to one year of schooling. Once J began the pre-primer work, his rate increased dramatically.

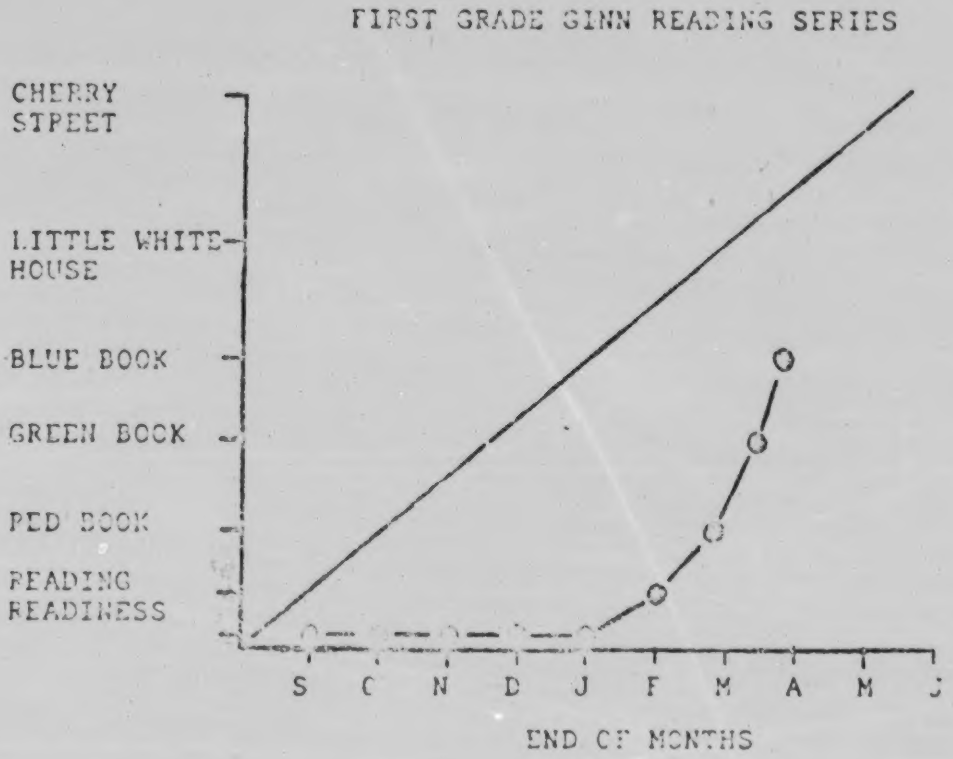

Figure 1: The teacher's record of J 's mastery of the first grade reading skills.

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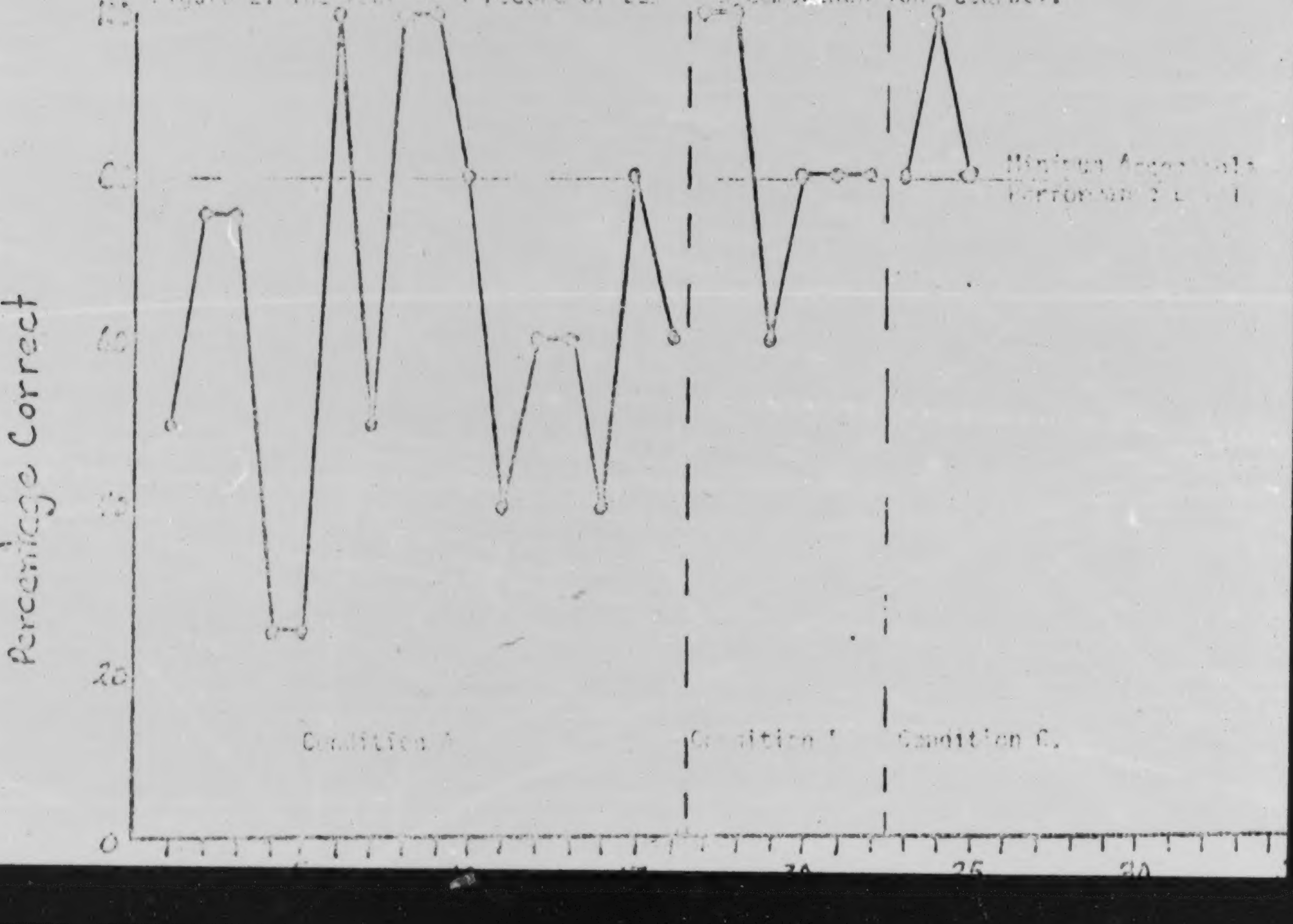
E

E was placed on the individualized program because he was not progressing at the minimum rate. Figure 2 shows E 's daily measures in comprehension after silent or oral reading. Initially E averaged 64% correct on 5 daily questions. (Condition A)

During Condition B the teacher asked E each of the five questions immediately after he had finished reading the material required to answer the question. When the material was broken down in this way, the average per cent correct increased to 83.

In Condition C, the material was not broken down. E earned 2 minutes of free coloring time for each question answered correctly. The average percent correct was 87.

Figure 2: The teacher's record of E 's comprehension accuracy.



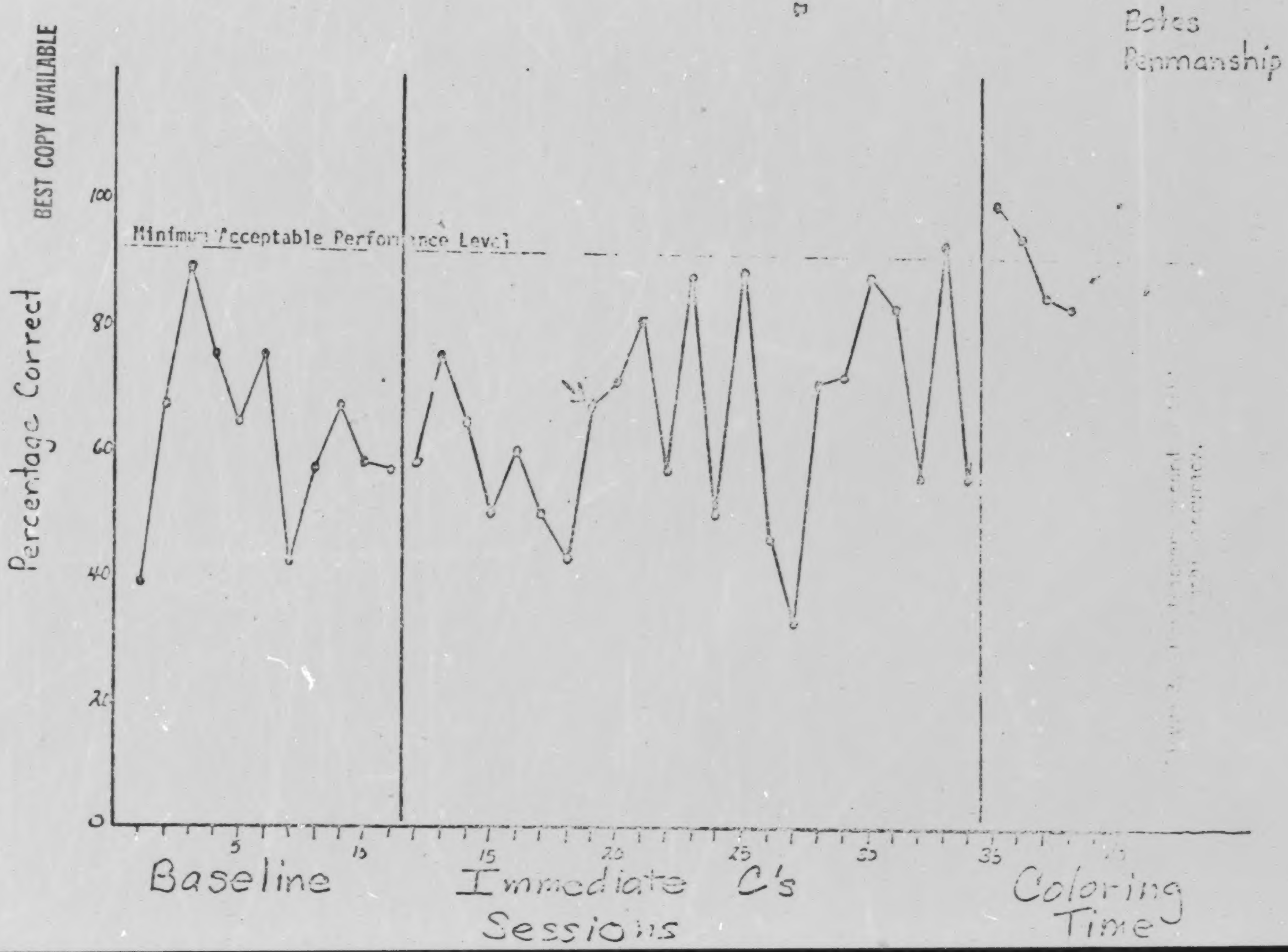
B

Daily measurements for B showed that penmanship was a weak area. Figure 3 shows that during baseline the average percent correct was 63.

B 's teacher began marking "C's" over words which were printed correctly and over appropriate spacing between words. The arrow indicates the session in which the teacher made a point of explaining exactly why she made the "C's". During this condition, the average percent correct was 65.

When B 's teacher allowed 2 minutes of free coloring time for each "C" the average percent correct increased.

Through developing an individualized language arts programs with daily measurement procedure, the children's teachers were able to provide a successful learning environment in which the children will be meeting the minimum objectives for their first year in school.


Bates
Penmanship
Percentage Correct
0
20
40
60
80
100
Minimum Acceptable Performance Level
5
10
15
20
25
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35
40
Baseline
Immediate C's
Coloring Time
Sessions

INDIVIDUALIZED READING
FIRST GRADERS AS DATA TECHNICIANS AND TUTORS

by

Marilyn Black, Marlin Murdock, and Carol S. Burdett

Referral Problem

A class of twenty-one first graders presented a problem to a first grade teacher when she wanted to spend extra time with seven students who needed extra help in basic reading skills. A reading program was needed for the other fourteen that ensured growth in reading, could be measured daily, increased the children's independent study skills and was not just "busy work".

Pupils

The subjects were fourteen first graders, nine girls and five boys, in a rural Vermont community. They had all had some kindergarten although there was no public kindergarten in the town. The fourteen first graders were chosen to participate in the project on the basis of scores received on the Ginn Readiness Test and an extensive first grade entry level test on pre-reading skills developed by the teacher while enrolled in the Special Education Summer Program at the University of Vermont. The other seven children received lower scores and were provided one-to-one instruction by the teacher.

Students were grouped for the reading procedures into seven pairs. A student kept the same partner for the entire study. Partners were chosen on the basis of teacher observation of their performance as well as their recognition of the words from the first preprimer, My Little Red Story Book.

Description of the Classroom

Desks for the twenty-one first graders were arranged in two semicircles, one within the other, in the middle of the classroom. The perimeter of the classroom was divided into four separate areas: 1) a group reading area in the front of the room, 2) a storage area at the back of the room where individual students reading materials were stored, 3) a reading table where individual teacher pupil conferences were held, and 4) an activity and game area. When reading time was announced the seven groups turned their desks so that they faced each other. The other seven students went to the group reading area to work with the teacher.

The word card procedure took place every morning from 9:00 - 9:30. Independent reading time took place in the afternoon right after lunch. Each student was allowed to converse with his partner but not with other members of the class. Working with a partner in this situation was contingent on quiet voices. (That is, when children were quiet, they continued work as partners; when they were not quiet, they stopped working as partners.)

Instructional Objective

Given any book chosen by the teacher as suitable for a first grade reading program the student will read at least 100 words of the book orally to the teacher with 90% accuracy and will answer orally at least five questions on the whole book with no more than one error.

To enable the students to meet this objective they will complete the three preprimers, the primer and the first reader of the Ginn Basic Reading Series. To enable the students to complete the readers; the students will conduct a flash card procedure using the words as they appear in the reading series to develop word recognition skills.

To enable any student to conduct the flashcard procedures the teacher defined independent interaction with a partner in this manner: 1) asking questions of the teacher by raising hands: 2) speaking in a quiet voice so as not to disrupt the reading group working at the front of the room or others working on the procedure; 3) assembling materials, using the procedures and keeping records without assistance from the teacher.

Instructional Materials

The Ginn Basic Reading Series, Grade One: My Little Red Story Book, My Little Green Story Book, My Little Blue Story Book, The Little White House, and On Cherry Street were the texts used in the first part of the procedures described in this paper. During the independent reading time books from the library selected by the teacher, another first grade teacher and the librarian as being suitable for first graders were used. Comprehension questions and an activity designed by the teacher were included for each book.

The following materials were provided for each student:

a shoe box in which to keep their materials,

a packet of word cards containing the words to be learned during the first grade,

a 3 x 5 card box to keep learned words in,

a magic marker,

blank cards,

pencil,

daily data sheets,

a graph for self recording,

various colored stars.

Phase One: Word Acquisition

Entry Level Procedures: An entry level test on words from *My Little Red Story Book* was given to each child. Using procedures developed by Burdett and Fox (1971), children were tested on the 10 words previously presented in a group reading situation. An independent observer also recorded these sessions. Reliability was 100%. Words missed on this test were the first words presented to the student during the peer learning procedure.

Measurement Procedure: Each student was provided with a data sheet prepared by the teacher. The data sheet, as shown below, contained the five words the child was to learn during the session, the pages he was to read orally to his partner, and the workbook pages he was to do independently.

Name		Date			
No.	Word				Pages to read ______ Workbook pages to do ______
65	color	0	+	+	
66	guess	0	0	+	
67	in	0	0	0	
68	box	+	+	+	
69	white	+	+	+	

A correct oral response to each flashcard was recorded as a "+" on the data sheet. An incorrect response or no response within 5 seconds was recorded as a "0". When a student received three "+'s" in one session on any one word, the word was considered learned. At the end of each day the teacher transferred the number of learned words onto a master data sheet.

Student Procedures: Each morning when "It's reading procedure time" was announced by the teacher, the fourteen students would turn their desks so that they faced each other and obtained their shoe box of materials from the reading storage area. The student wrote his name and the date at the top of his data sheet and pulled from his pack of words to be learned the five words he needed for the session. Each student then exchanged the data sheet and word cards with his partner.

With his partner's data sheet before him, the student tutor presented the words one at a time to his partner. If his partner responded correctly within 5 seconds the tutor said, "Good" and recorded a "+" on the data sheet. If the response was incorrect the tutor corrected his partner, the partner imitated the tutor and the tutor scored a "0" on the data sheet. The procedure is repeated three times. If the tutor did not know the word he raised his hand and waited for the teacher to come and give him the correct response.

They then changed: the tutor became the partner, the partner the tutor and the same procedures were followed. When the students finished the procedure they again exchanged data sheets and word cards. Each student then made word cards for his word box for each word that had met the learned word criteria, three consecutive "+'s". The words that did not meet criteria were returned to the word pack, learned word cards were left loose in the shoe box to be removed later by the teacher. This procedure enabled the top five cards on the pack to always be the ones that the student would use next. The students then recorded the number of words learned on a cummulative graph by placing a star on the graph for each word learned.

The partners then checked the Pages to Read section of their data sheet. The story assigned to the student was based on his knowledge of the vocabulary. No story was assigned until the student had learned all of the words in the story. The students then read their assigned stories to their partners.

When the oral reading was completed, the students worked individually on their assigned workbook pages.

Teacher Procedures: The above procedures were explained individually to each pair of peer tutors. The students performed each step of the procedure as it was explained to them. Each explanation took approximately thirty minutes and the entire process took two weeks to complete.

The teacher kept a folder on each student. Here she recorded the words learned, graphed the number of words learned daily, and filed the daily individual data sheets. After each learning session, the teacher removed the data sheet and learned words from each box. She prepared the new data sheets and the students entry level test. She also noted the pages to be read orally, and workbook pages to be read.

Periodically the teacher listened to each child read at least 100 words orally. She then asked the student at least five questions on the selection.

Results

Table 1 shows the number of words learned by each student during the peer tutor phase of the study. Students learned from 85 to 112 words with an average of 98 words. The acquisition rate ranged from 3.3 to 4.7 words learned per session with an average of 4.1 words per session.

Pupil	Number of Words Learned	Number of Sessions	Rate
Lori	99	21	4.7
Ronald	99	23	4.3
Celia	103	24	4.3
Artie	90	23	3.9
Katie	106	25	4.2
Penny	106	25	4.2
Janna	92	22	4.2
Carol	98	25	3.9
Donny	104	23	4.5
Candy	99	24	4.1
Wayne	112	27	4.1
Marlin	85	20	4.3
Holli	103	23	4.5
Mark	86	26	3.3

Table 1: Total number of words learned by each student during the daily tutoring session. Column 3 shows the rate of words learned per session for each student.

Phase II: Independent Reading

Procedures: After the students had demonstrated that they had learned enough words to read independently, the teacher set an independent reading time. This was usually held right after lunch for a half an hour. The students read silently from books preselected as suitable for first graders by the teacher. Upon completion of the book, the students read orally to the teacher, answered comprehension questions, and engaged in an activity related to the book.

Measurement Procedure: Upon completion of a book the student counted a 100 word selection from the story and read it orally to the teacher. A tally of the number of reading errors made by the student was kept by the teacher. The percent of words read correctly was recorded and graphed. The teacher then asked the student at least five questions on the whole book to check his comprehension on both oral and silent reading. A record was kept on the percent of questions answered correctly. An independent observer also recorded oral reading sessions for five of the students. Reliability averaged 98%.

Results

Figures 2 and 3 show the oral reading and comprehension performance for each of the fourteen children. The individual graphs show the number of books read by each child. The students read from five to sixteen books independently with an average of 10 books per student.

Figure 2 shows the percent of words read correctly during oral reading time. Student averages ranged from 97% to 100%, with a mean of 99% for all students. Figure 3 shows the percent of correctly answered questions. Students averaged from 94% to 100% with a mean of 98% for all students.

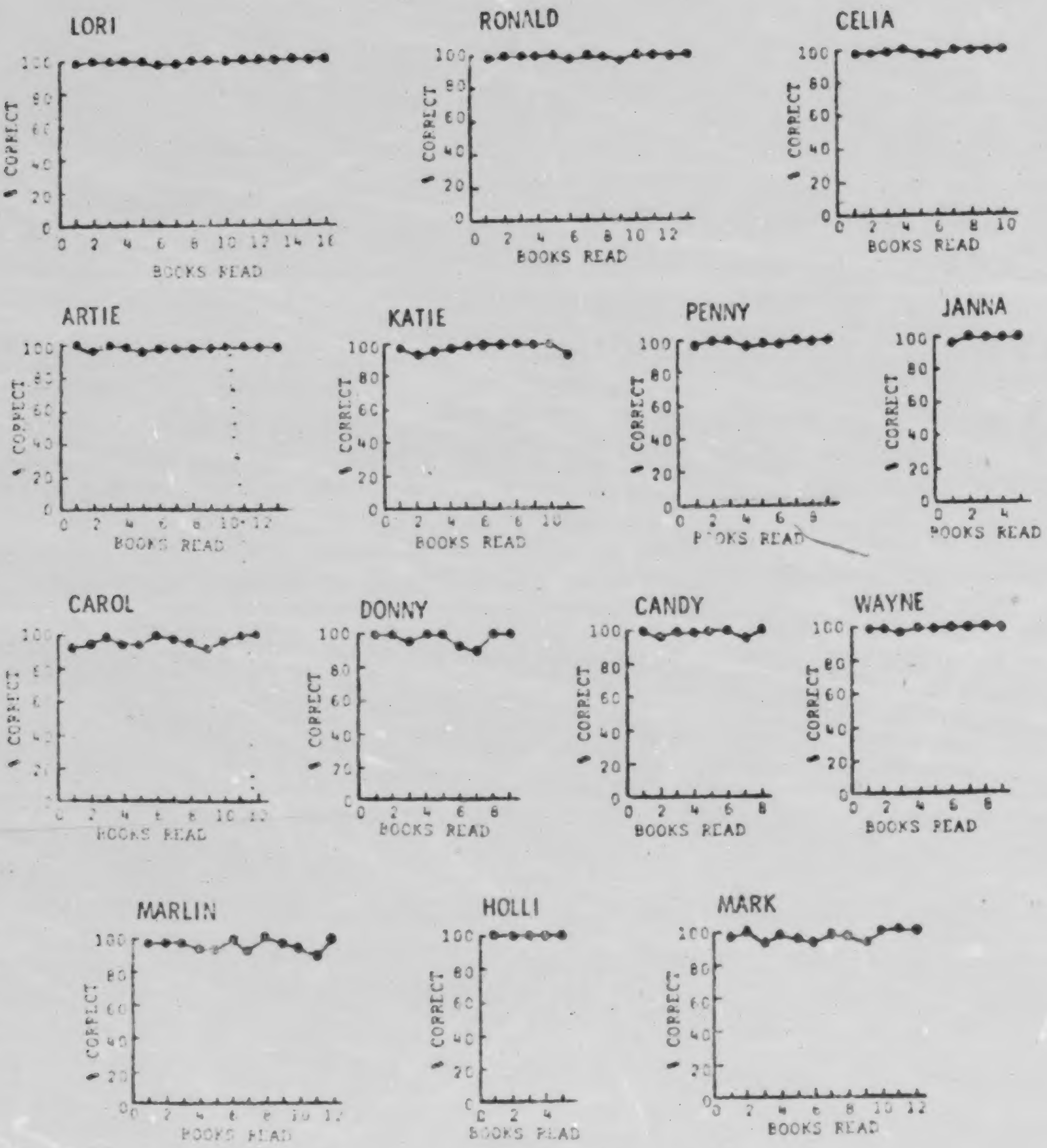


Fig. 1: Percentages of oral reading accuracy on a selected passage from books read during independent reading time.

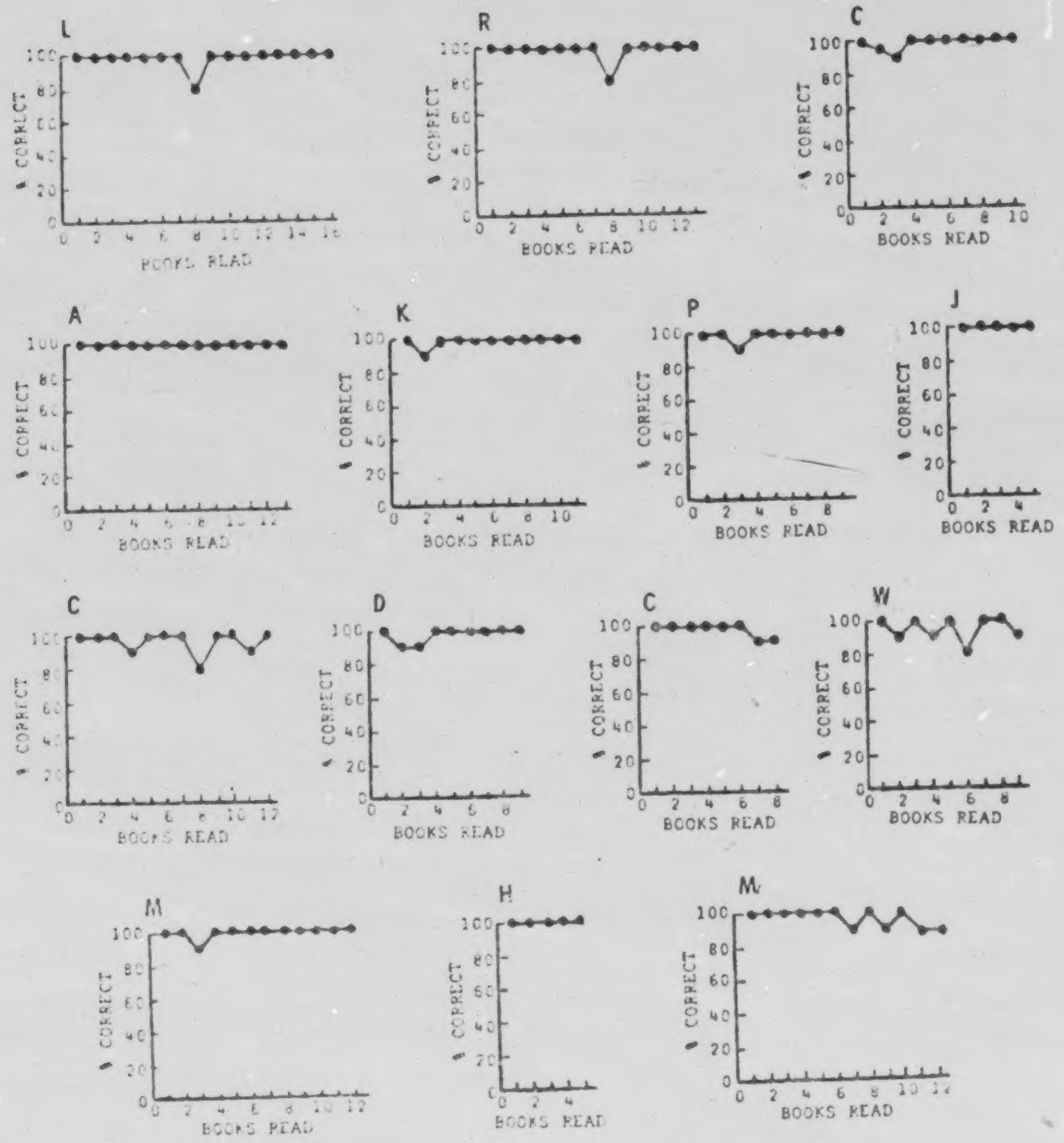


Fig. 2: Percentages of comprehension questions answered correctly on books read during independent reading time.

Discussion

This proved to be a very successful way for these fourteen first graders to learn to read. All students completed all of the first grade required reading work. Table 2 shows the scores of these fourteen children on the Ginn, First Reader, Achievement Test. The highest score possible is 105.

Name	Score	Rating
Lori	105	Superior
Ronald	105	Superior
Celia	105	Superior
Artie	104	Superior
Katie	105	Superior
Penny	105	Superior
Janna	105	Superior
Carol	103	Superior
Donny	105	Superior
Candy	103	Superior
Wayne	96	High Average
Marlin	104	Superior
Holli	104	Superior
Mark	102	Superior

Table 2: Individual pupil scores on the Ginn, First Reader Achievement Test, administered when all students had completed the First Reader.

Thirteen of the students scored a superior rating, the fourteenth a high average.

The teacher described the program as "very successful". Having the students work in pairs freed her to work with the seven other first graders who required her personal attention. The daily progress of the students provided precise information on how quickly words were learned. She is also pleased that all 21 children met the minimum objectives set by her school for first graders in reading.

AN INDIVIDUALIZED LEARNING UNIT TO TEACH PAYROLL SKILLS

by
Thomas Shropshire

Introduction

As a high school teacher enrolled in Education 292: *Issues in Contemporary Education: Behavioral Objectives and Performance Criteria* - I developed and implemented the following teaching/learning unit for four students.

The Objective

Given the following: an adding machine, an incomplete payroll register, 10 incomplete time cards, a social security withholding tax table, and a federal income tax table, the student will mathematically compute and complete the payroll register and the time cards with 80%-100% accuracy within a 60 minute period with legibility of numbers to the satisfaction of the instructor.

The Group

Four students--two female and two male--were given this learning unit. The group was composed of students below average, with average and above average learning abilities, two of whom were juniors and two seniors. Two of the four students were highly motivated students during the school year, while the others were average or below in motivation.

The Preassessment Test

The preassessment test was given and 2 of the group completed 70% of the test accurately. The remaining 2 completed 40% of the test accurately.

Payroll Learning Units

There were nine learning units developed for meeting the stated objective. Of the group, 3 students completed the learning units within 3 to 5 days on an independent study program. Some of the three students did those units which only applied to areas where there was a weakness or lack of knowledge indicated. One student completed the learning unit within 8 days. This student worked all nine learning units due to a total lack of skills and knowledge in payroll preparation. Calendars were used daily to show the progress of each student. The instructor also kept daily progress records.

The Evaluation

In each learning unit, the student was given a question (problem) which could be answered yes or no. If he successfully answered the question, he could go to the next unit. If not, he was to follow a given sequence of procedures for the development of the skills required.

At the end of the nine learning units, the student took a mastery test and was evaluated on the results. Two students received scores of 90% or more while the remaining two students received scores of 80% or better.

Critique

The following critique depicts those areas of the payroll learning unit that I feel are strong and those in need of revision.

Strong Points:

1. Comprehensive payroll preparation skills
2. Comprehensive time card preparation skills
3. Comprehensive withholding tax table interpretation
4. Incorporated personal and vocational applications of payroll terms.

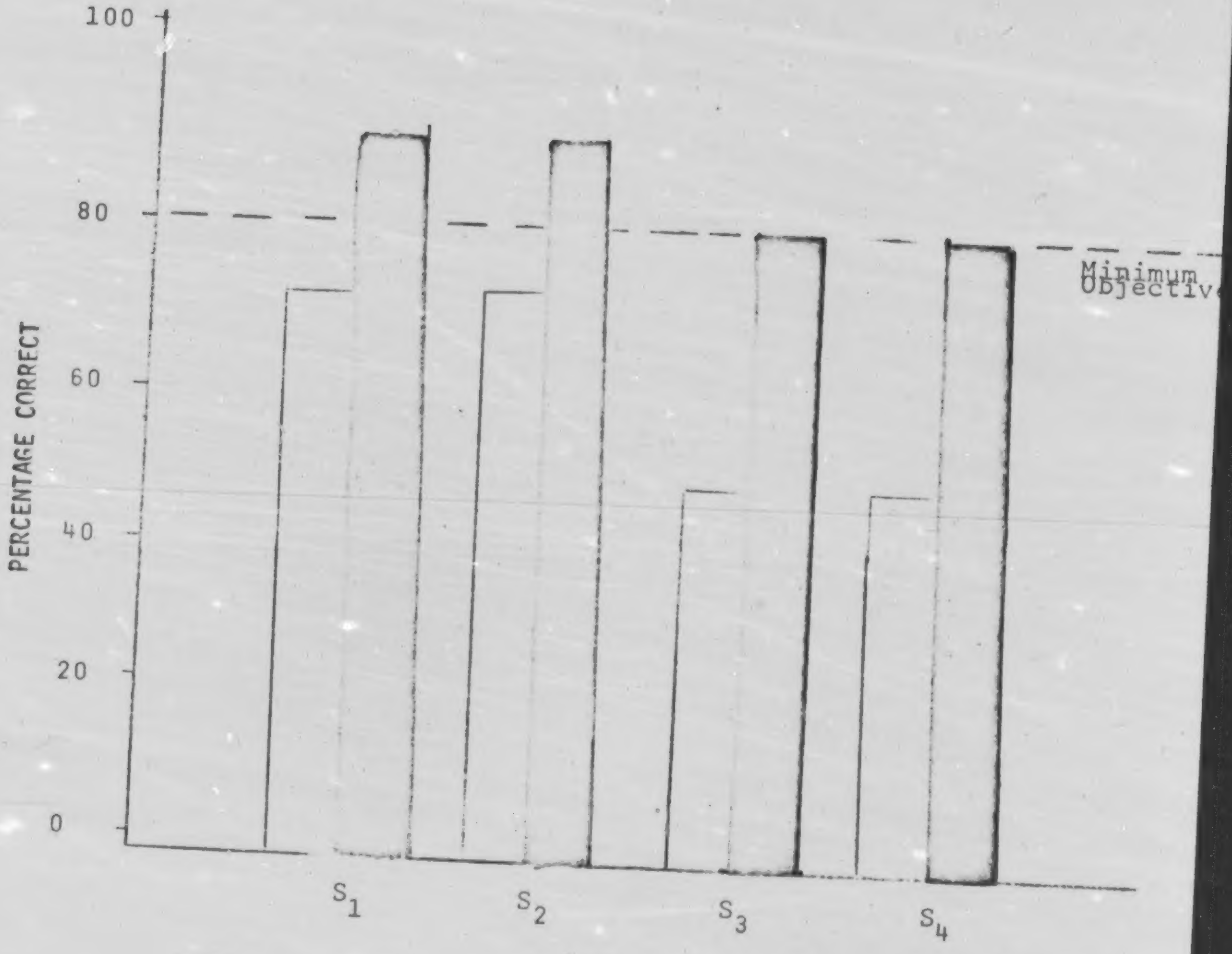
Weak Areas and Recommended Revisions

1. Not challenging to the above average student
   Develop different learning units for different ability levels.
2. All students selected were working and had current knowledges and skills for payroll preparation or had similar work in other courses in school.
   Avoid duplication of work--establish one mini-course for all students working on the same material in different courses.

3. Too mechanical with lack of genuine "understanding" of reasons behind why money is deducted from wages. Allocate time for each student in the program to have a conference with the instructor in order to discuss social security and income tax deductions. This would be more for personal use so that the student knows why money is deducted from his pay check.

Summary

The preparation of this unit allowed me the opportunity to develop teaching units which are more challenging to me as a teacher because it demands programming information for student use. I am more aware of the needless repetition of information and work that students are exposed to throughout the school. Concurrent programs in which a student is enrolled are doing the same work. I feel that the preassessment test allows the instructor to concentrate on the weak skills and knowledge indicated by the student instead of spending precious time on skills and knowledge already possessed by the student. The preparation of terminal objectives, and learning units leading to that objective and their fulfillment has reinforced my belief that students should be allowed to complete a program when the objective is reached rather than requiring students to participate on a stated number of days.



Pre-test (☐) and Post-test (▨) Scores for each student who completed the Payroll Learning Unit

INCREASING ACCURACY AND ATTENDING DURING ARITHMETIC WORK FOR A FIFTH GRADE BOY

By
Peg Donnelly and Pat Pierson

LEARNER AND ENVIRONMENT

R was a twelve-year-old boy in a fifth grade classroom. He was diagnosed as hyperactive and was put on medication. There were 27 children in the classroom, which was in a low income area.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

R. didn't complete his assignments, although the teacher knew he was capable of doing so. He stared out the window or played with puzzles all day. The teacher felt that since R was deficit in all subjects, he would have the best chance to taste success in the subject that came first in the day, arithmetic. The behavior defined was completion of assigned arithmetic with 80% accuracy. Data was also kept on attending behavior during the first half hour of the period, with a criteria of 80%.

The teacher corrected R. 's paper at the end of the arithmetic period. The teacher also kept a record at 3-minute intervals for a half hour on R y's attending behavior. An observer was there once during baseline and twice during contingency, with 100% agreement on each occasion.

TEACHING/LEARNING PROCEDURES

R. was working in Contemporary Arithmetic, Saddler, level 5.0 on a review of addition and subtration, and later went to multiplication and division.

Baseline: During this period the teacher assigned work and recorded daily the percent correct. She also kept data on attending behavior.

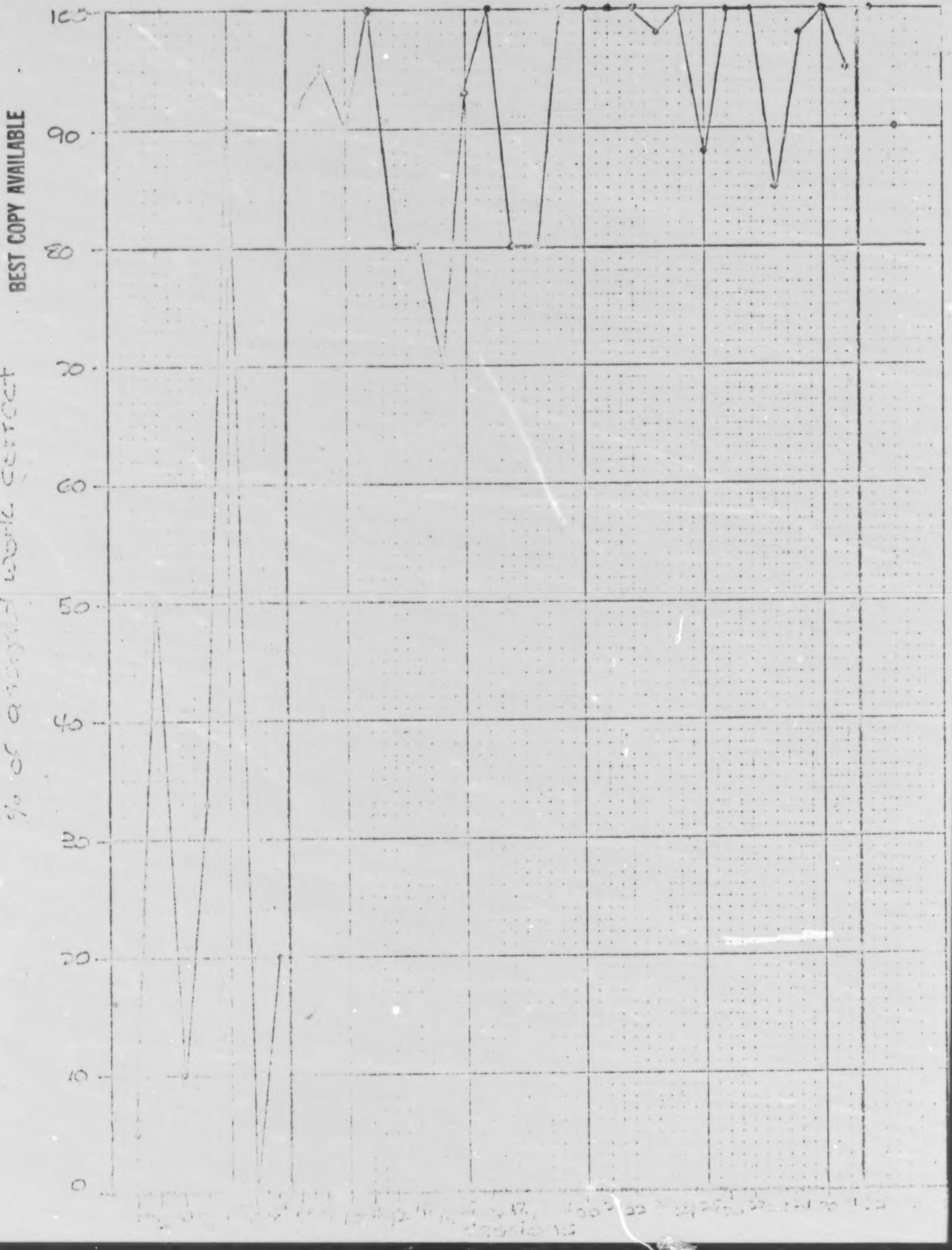
Contingency: The teacher met with R and discussed the problem. It was decided that if R completed his assignment with 80% accuracy, he could listen to his transistor radio for 20 minutes at the end of the morning. If he attended 80% of the time, he was able to fill in his graphs for that day.

RESULTS

Figure 1 shows the per cent correct and figure 2 shows R 's percentage of attending. During baseline R had an average accuracy of 20%, with a range of 0-90%. His attending averaged 40%, with a range from 10-80%. During the contingency period, his average percent correct rose to 95%, with a range of 70-100%. His average attending was 85%, with a range of 60-100%. Post Checks taken at weekly intervals were 100% and 90%.

The contingency of free time appeared to be an effective reinforcer for R . A month after the taking of data was discontinued, the teacher reported continued improvement in arithmetic skills as well as steady progress in reading work. She also reported being better able to reason with him. He had learned to accept the rules and showed enthusiasm for his work.

#16



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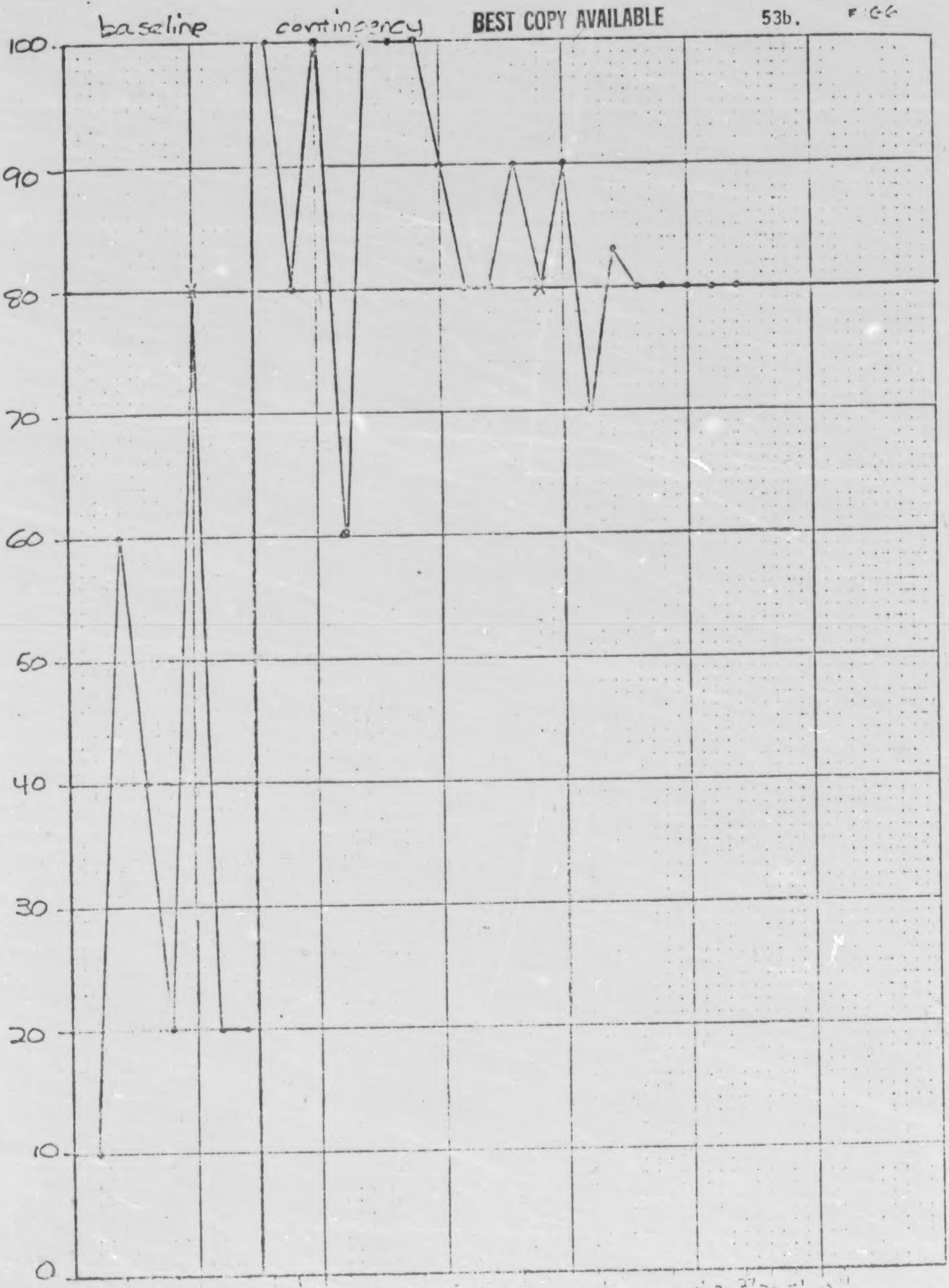


INCREASING PARTICIPATING BEHAVIOR OF A SEVEN-YEAR-OLD BOY DURING A DAILY PHYSICAL EDUCATION CLASS

By

Claudia Brown, Fran Whitney, Joyce Klinkenberg, and Pat Pierson

LEARNER AND ENVIRONMENT

B was one of sixteen children in a transitional level classroom (between Kindergarten and First Grade). He had attended one year of Kindergarten. B had epilepsy for which he received medical attention. His classroom teacher and the physical education instructor both reported that he was not participating according to his ability during the twenty-minute gym session.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

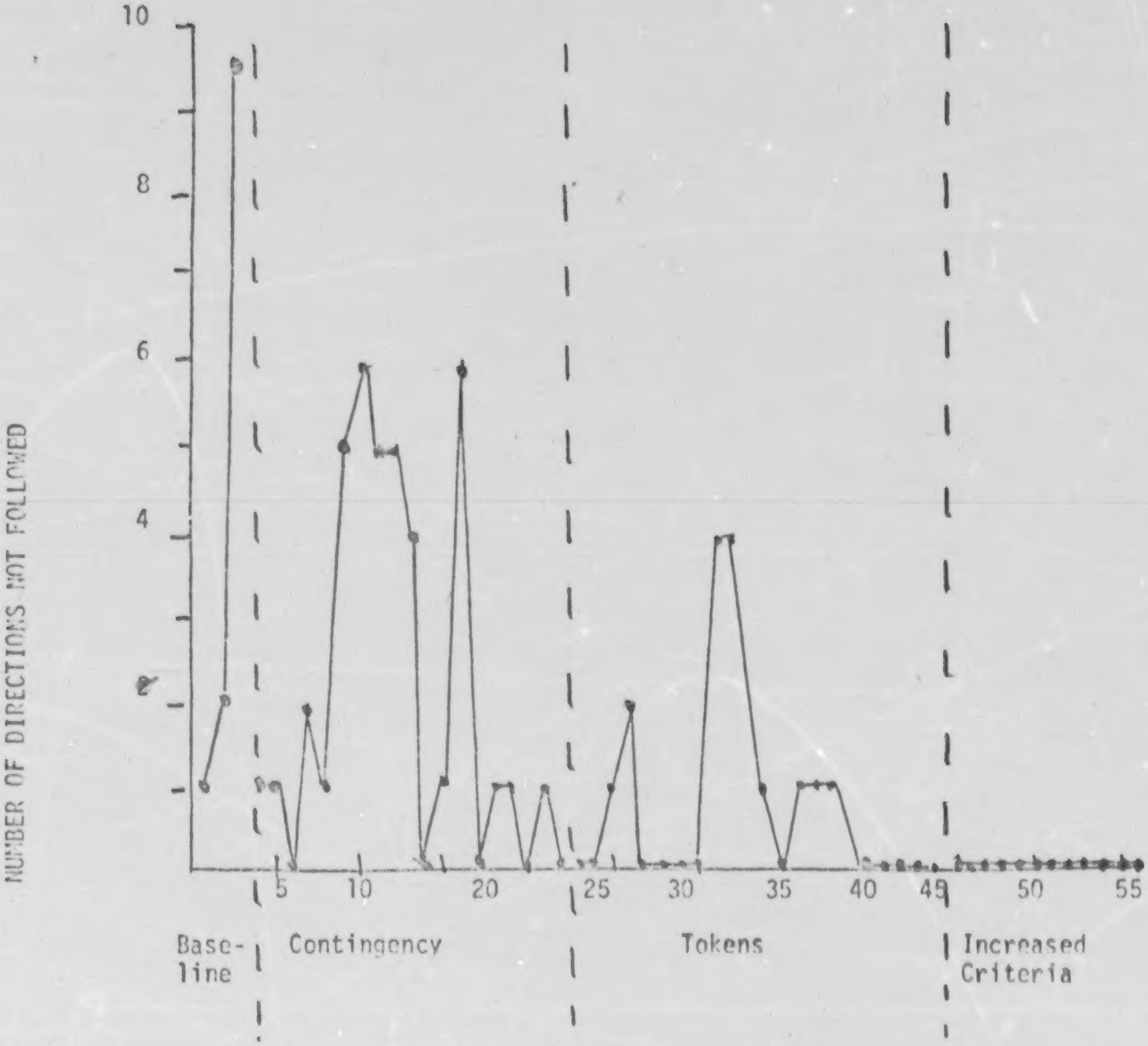
Non-participating behavior was defined as responding inappropriately to directions (standing back from an activity and rejoining the group after that activity ended or total lack of participation by sitting away from the group and observing the class).

Non-participating responses were obtained by means of a frequency measure of the number of directions not followed. (The number of instructor's directions given varied daily.) Reliability was taken throughout the study, with 100% agreement.

TEACHING/LEARNING PROCEDURES

Instructional materials consisted of a compiled P.E. notebook guide, an indoor facility with various equipments, and an outdoor playground facility.

Baseline: The physical education instructor taught, often participating with the children in the various activities. Those who chose not to participate got little or no attention. She gave positive praise to those children displaying appropriate behaviors.


NUMBER OF DIRECTIONS NOT FOLLOWED
10
8
6
4
2
5
10
20
25
30
35
40
45
50
55
Base-line
Contingency
Tokens
Increased Criteria

Contingency I: With assistance during the gym session for B , he received a star from the P.E. instructor for 100% of directions followed. He would then bring this star to the classroom and gain teacher praise and she would record his success upon a chart with a sticker star. B took the given star home where he was reinforced with parental encouragement.

Contingency II: Contingency I failed to be effective, and thus, a second contingency replaced the first. It was understood by B that should he follow directions for 100% of the gym session, he would receive a token. When he had received three, he might choose a toy from a bag which the classroom teacher kept. This cycle continued successfully.

Thinning: Tokens were removed and a weekly (Monday through Friday) effort of 100% of directions followed was rewarded on Friday, with a toy.

RESULTS

In the Baseline condition, the number of directions not followed ranged from 1 to 8. In Contingency I the number of directions not followed ranged from 0 to 6, with an average of 1.89. In Contingency II the number of directions not followed ranged from 0 - 4, with an average of .49. In the Thinning procedure, the number of directions not followed remained stable at 0, showing a consistent 100% of directions followed for B .

THE EFFECTS OF A TEAM CONTINGENCY ON IMPROVING BASIC ARITHMETIC PERFORMANCE

By

Margaret Young, Roy Steuwe, and Pat DeVoe

REFERRAL PROBLEM

The 15 students in the Level 2 class for educable mentally retarded students had not mastered the addition combinations from 0-10 after having repeated drills, relays, worksheets, and experiences with manipulative objects. The students could arrive at the correct answers only by counting or using blocks.

INSTRUCTIONAL OBJECTIVE

Given the combinations from 0-10 each student will write the correct answer within 5 seconds so that on a biweekly 2 1/2 minute timed test of 30 addition combinations, the student will score 95% correct.

MEASUREMENT PROCEDURE

Twice a week, a percentage correct was computed for each student's performance on a test by dividing the total number of correct responses by the total number of responses, multiplied by 100. Each student was given a sheet of paper numbered from 1 to 30. The addition facts from 0-10 were recorded on a record with 5 seconds between each presentation. Each student graphed his accuracy. Reliability was provided by the teacher aide. In addition, a team average was computed by adding the team members' scores and dividing by the number of team members.

TEACHING/LEARNING PROCEDURES

Baseline: Students studied the addition combinations using manipulative devices, drills, relays, and worksheets.

Contingency: The class was divided into three teams (Red, Green, and Blue) of five students per team with the teacher aides and the teacher as team leaders. The distribution of team members is shown in the following chart.

	Number of Members		
Score on First Test	RED	GREEN	BLUE
0-10 correct	2	2	4
11-25 correct	2	2	0
25-30 correct	1	1	1

The average team performance on the first test was: Red - 53%; Green - 45%; and Blue - 39%. The first team whose average team performance met the 95% goal level would receive an Ice Cream Party.

FLASHCARD GAME

In order to enable students to reach criterion, each day the team leaders conducted a simple flashcard game with each student. Unknown addition combinations were printed on 3 x 5 index cards. Five combinations were presented per day. If a student responded correctly within 5 seconds, the team leader marked a + on a data sheet and praised the student. If the student was incorrect or did not respond within 5 seconds, the team leader marked a "o" and gave the student the correct answer which the student imitated. This procedure was repeated three times per session. When a student responded correctly on three consecutive trials, the combination was considered "learned" and a new one added. Students also continued to work on drills, relays, and worksheets.

RESULTS

The graphs in figure 1 depicts the average team performance for each team on each test session. During Baseline, the Blue team scored an average of 51% with a range of 39% to 68%; the Green team averaged 62% with a range of 45% to 68%; and the Red team averaged 64% with a range of 53% to 77%.

During the Ice Cream Party Contingency plus Flashcard Game, each team's average accuracy increased; in addition each student's individual performance improved over baseline accuracy. The Blue team averaged 75% with a range of 58% to 90%; the Green team averaged 84% with a range of 72% to 90%; and the Red team averaged 81% with a range of 65% to 95%.

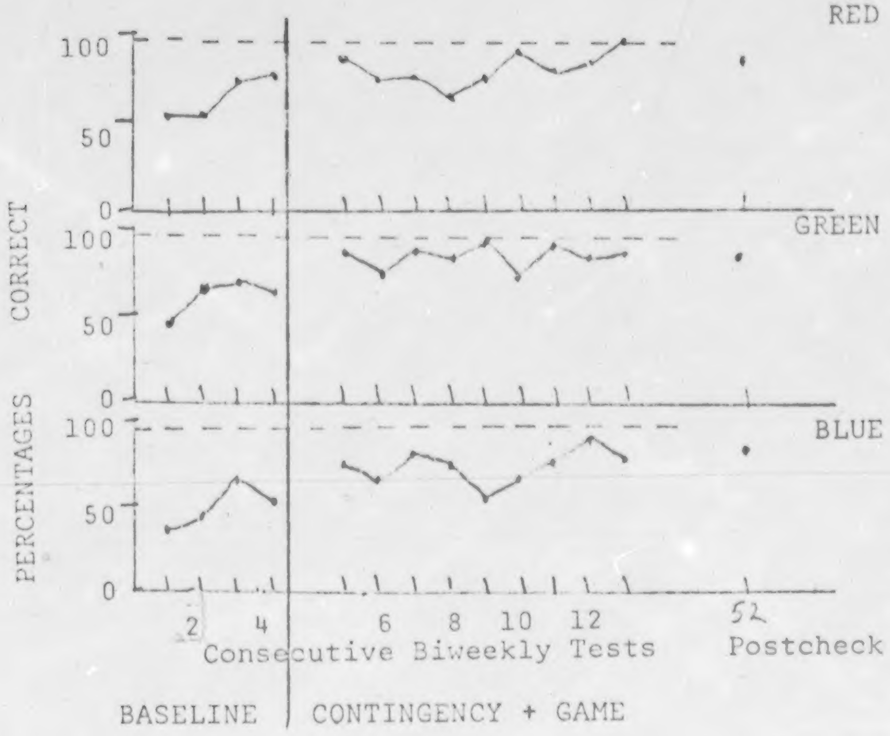
A post check was conducted 40 days after the conclusion of the teaching/learning procedures. Each team maintained their high performance when compared to baseline performance, and more important, each student's performance was maintained.

DISCUSSION

Apparently the introduction of a party contingency for the winning team plus the flashcard game provided each student with the occasion for students to learn addition combinations. Everyone showed improvement, interest, and appeared to enjoy the sports-like competition.

Figure 1. The Average Team Performance For each team during Each Condition.

The dotted line indicates the 95% goal level.



SHAPING INDEPENDENT WORK SKILLS IN A FIRST GRADE BOY

By

Barbara Batten and Suzanne Armstrong

LEARNER AND ENVIRONMENT

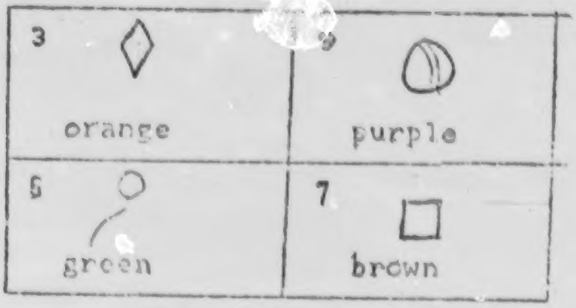
Alan is a 6 year old boy in a regular first grade class of 24 pupils. At the beginning of the school year, he seemed to be very shy and immature. His mother and teacher both noticed that he did not show an awareness of what was going on around him. He often had no eye contact with a person talking to him, and would seldom respond to a question that required more than a yes or no answer.

Health check-ups revealed that his hearing was normal and that vision had been corrected with glasses.

The possibility of a perceptual motor problem was suggested as he was clumsy and uncoordinated in both gross and fine motor areas. For example, he experienced difficulty in descending stairs, placing both feet on each step before going on. He sometimes bumped into things as he walked. His handwriting skills did not develop as quickly as those of the "average" child in his class, and he did not accurately reproduce assignments.

One of the terminal objectives of the teacher was to have all children working from a folder containing individualized assignments. In order to work independently on each assignment in their folders, the children first had to develop some independent work skills.

One assignment devised by the teacher for this purpose was an activity that was put on the board daily for the children to do at their seats. It consisted of four sections, four drawn objects, four colors and four numbers for them to copy independently on a sheet of paper.



For example, if a given number in one box on the board was 3, with the given color orange, and a kite drawn in that box, the children were to draw three orange kites in the corresponding box on their paper.

BEHAVIORS OF CONCERN AND MEASUREMENT PROCEDURES

A was given this assignment daily along with other students. He experienced difficulty in completing the task correctly so the teacher and consulting teacher set the following objectives for the assignment to enable A to acquire the skills involved.

A will

Given a daily assignment for developing independent work skills drawn on board, and a piece of paer and pencil	1. fold paper	in 4 parts
	2. name on paper	
	3. copy numbers	correct information
	4. copy color word	all letters in order
	5. recognize numeral	as shown by reciting number when teacher points to each
	6. recognize object	shown by telling teacher name of each object depicted
	7. recognize color words	shown by telling correct color when teacher points to word
	8. reproduce number of objects	correctly
	9. place objects in boxes	correctly
	10. place objects	within boundaries

TEACHING/LEARNING PROCEDURES

Baseline: A data sheet (see figure 1) was devised by which these ten skills could be measured. Baseline was taken for four sessions. Percent correct ranged from 10-20% with a mean of 14% (figure 2, "Baseline").

Shaping: The teacher decided to tell A how to do the assignment, one step at a time, beginning with folding the paper. When he had completed one step successfully, she would praise him and then give instructions for the second step. If a step was done incorrectly, she would help him correct it before going on to the next step.

Because A 's work did improve when these procedures were followed, (see Figure 2 "Sequence and Praise") it was felt at first that praise and consistent attention for correct completion of each step might be controlling consequences for the independent task-completion behavior. However, improvement was slow, and since the work was not being completed independently, there was a need for further shaping. The required response was complicated; not only did it require ten "skills" but also a transfer from board to desk. Therefore a four-step shaping procedure was devised, in which A was given parts of the assignment on a card at his seat. The first card given had only one of the four boxes to be reproduced. When he could do this successfully (100%) for 3 days, he was given a card with 2 boxes, then three and finally four (see figure 4).

A reached criteria on 3 of the 4 phase shaping steps (see figure 3). On the fourth step, his score never did reach 100%, but since it was consistently high (80-90%) it was decided to try a return to the original requirement of the entire assignment on board. Figure 2, return to original complete task equirement, shows he did make the transfer quite successfully.

FIGURE I

+ = meets criteria without teacher help

✓ = meets criteria with teacher help

○ = does not meet criteria

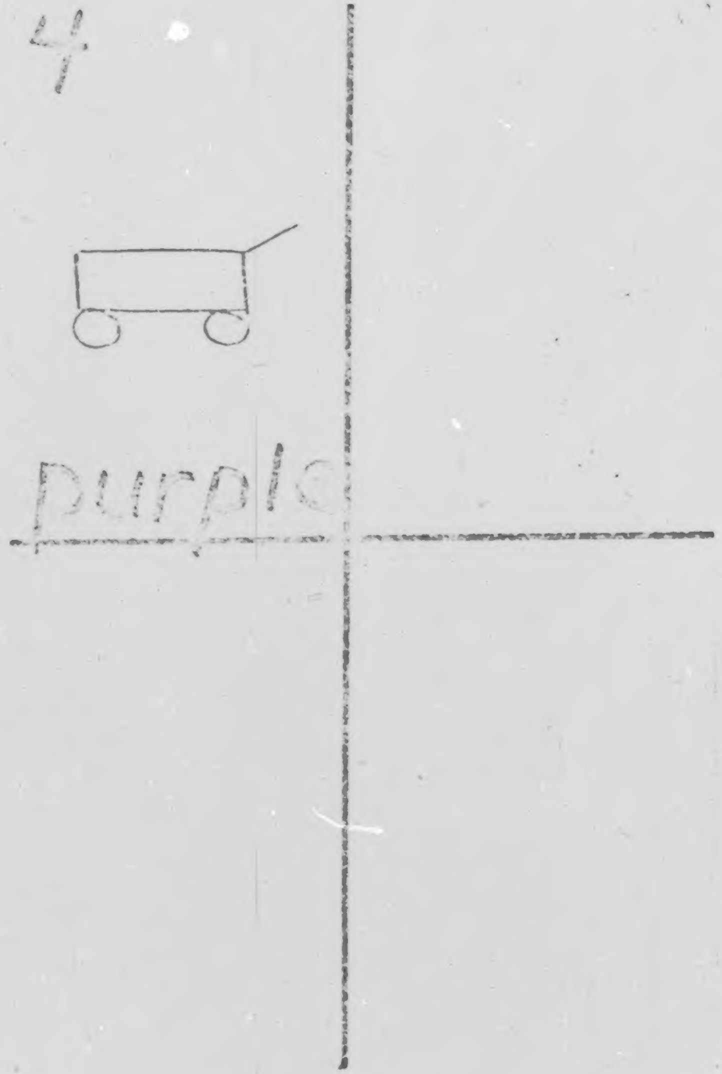
Teacher ____________________

Pupil ____________________

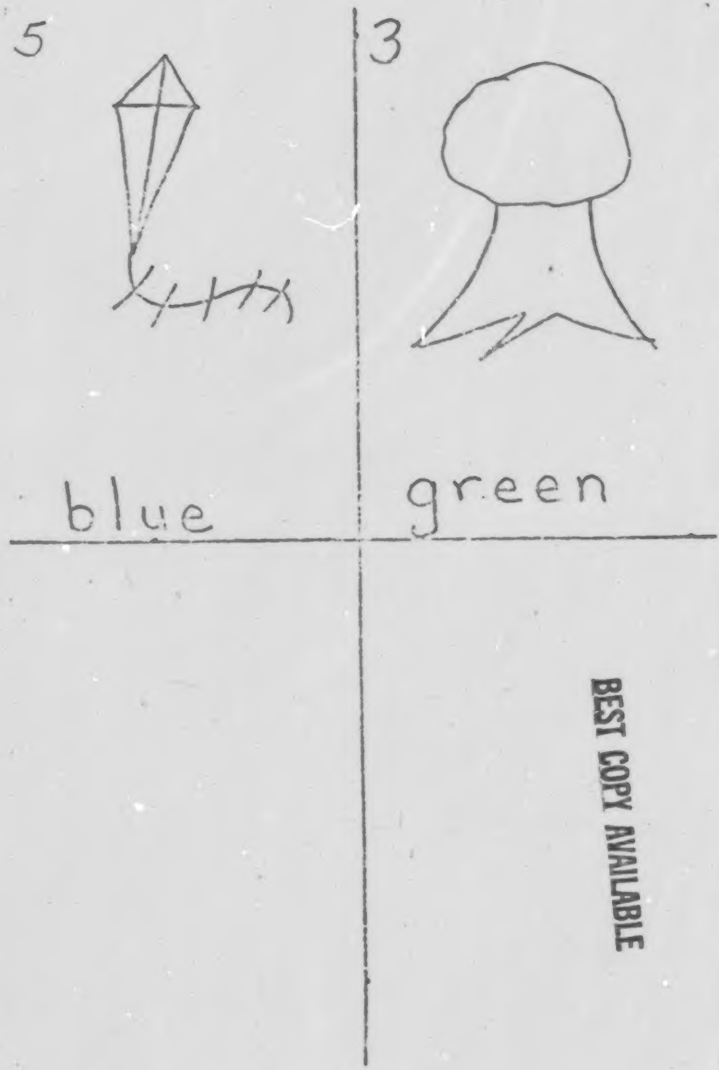
Developing Skills in Following Directions

Skill						
1. Fold Paper						
2. Name on Paper						
3. Copy Numbers						
4. Copy Color word						
5. Recognizing numerals						
6. Recognizing objects						
7. Recognizing color words						
8. Reproducing correct number of objects						
9. Placing objects in correct boxes						
10. Placing objects within boundaries						
% of criteria met						

FIGURE 4

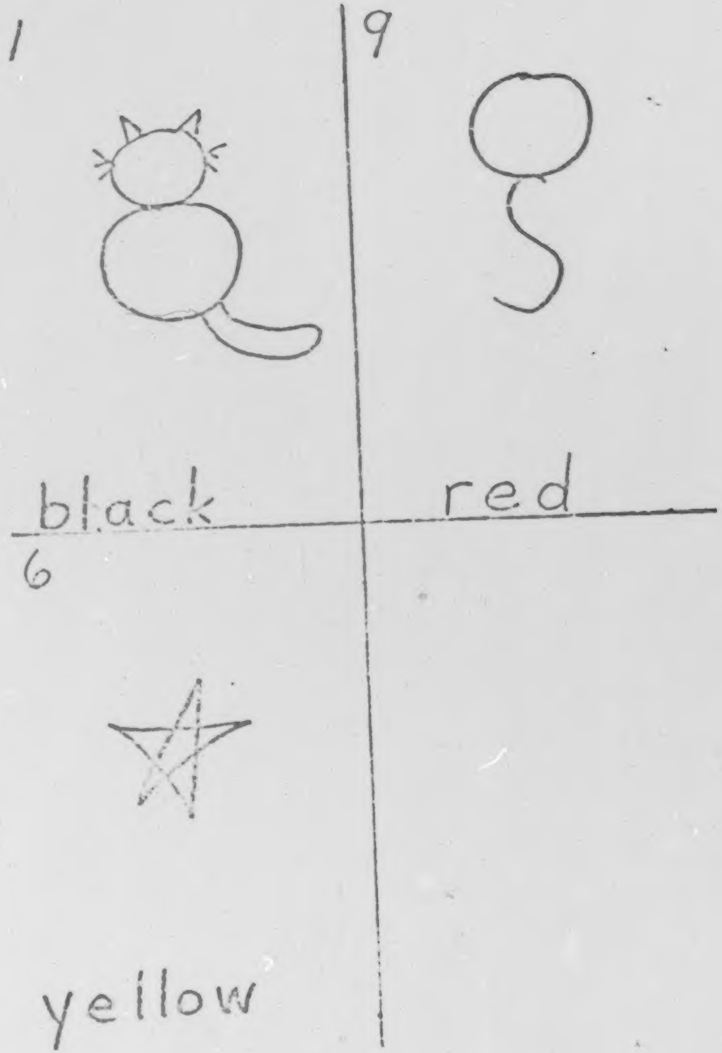


ONE BOX REQUIRED

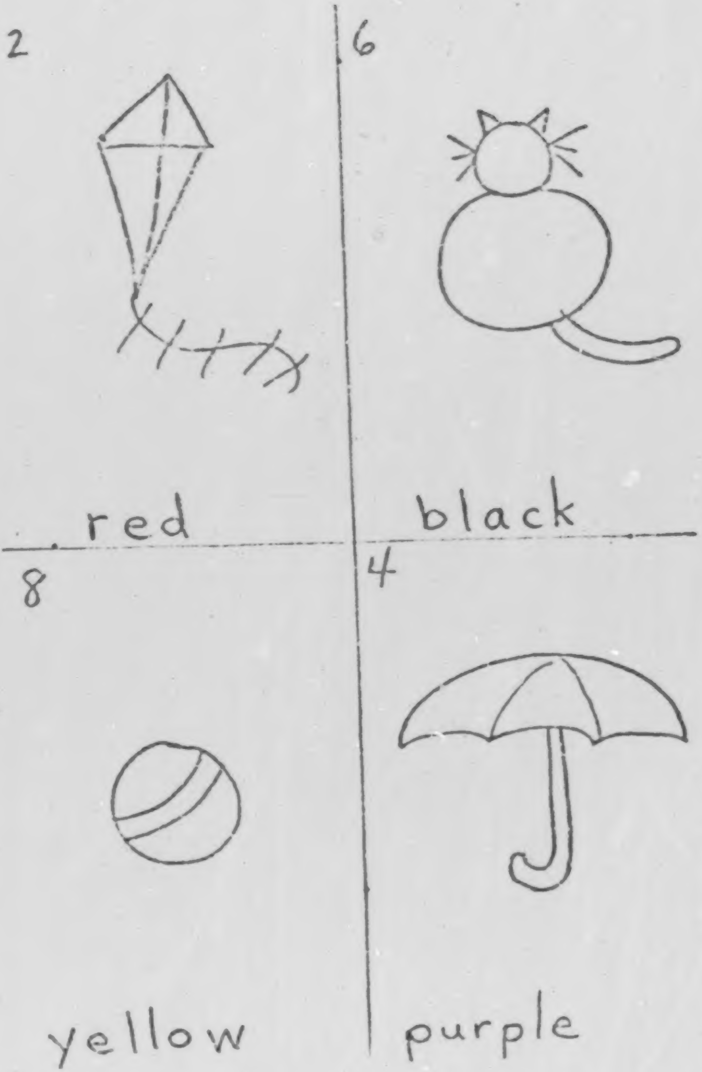

5
3
blue
green

TWO BOXES REQUIRED

FIGURE 5


1
9
black
red
6
yellow

THREE BOXES REQUIRED

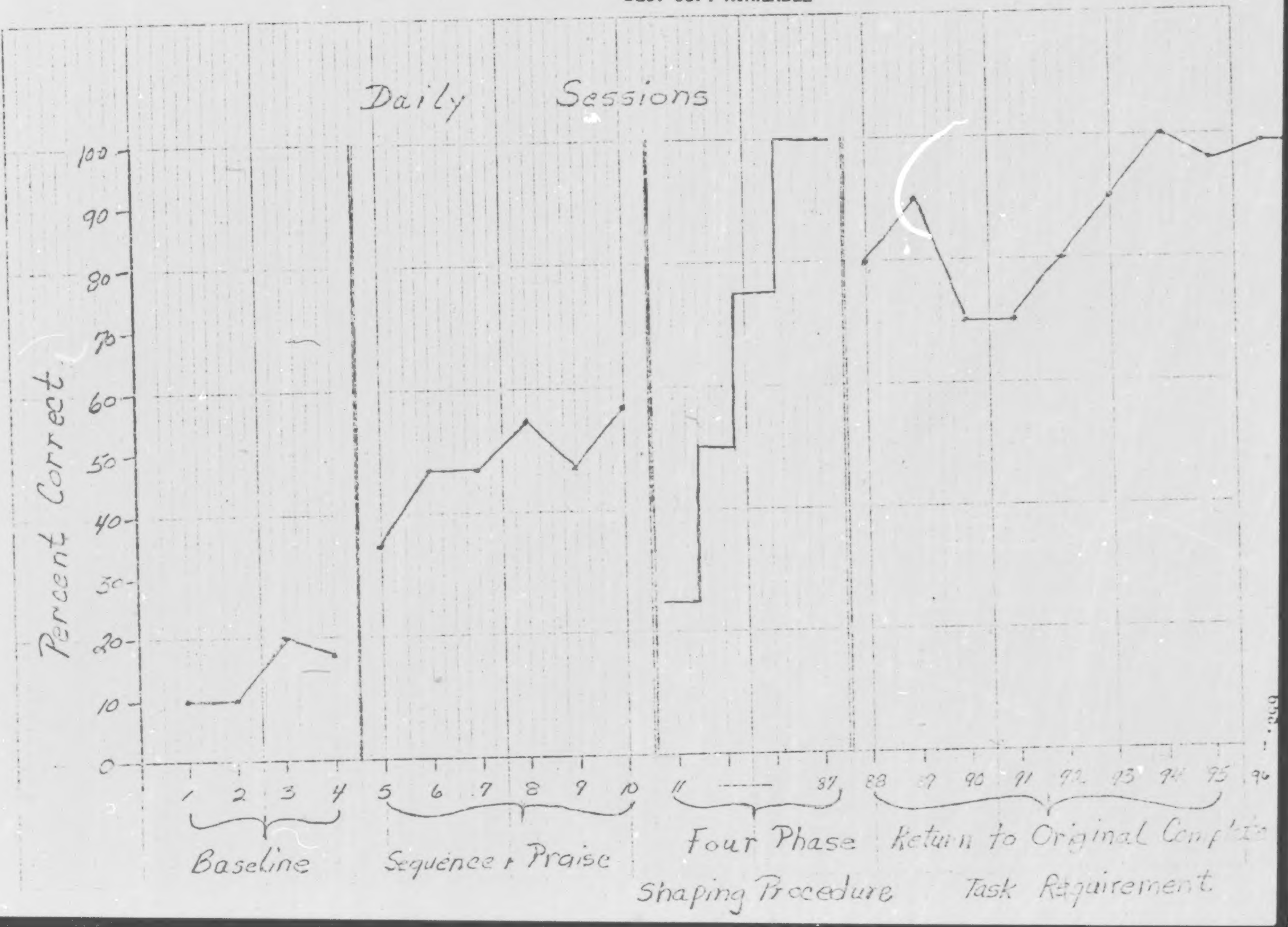

2
6
red
black
8
4
yellow
purple

FOUR BOXES REQUIRED

FIGURE 2

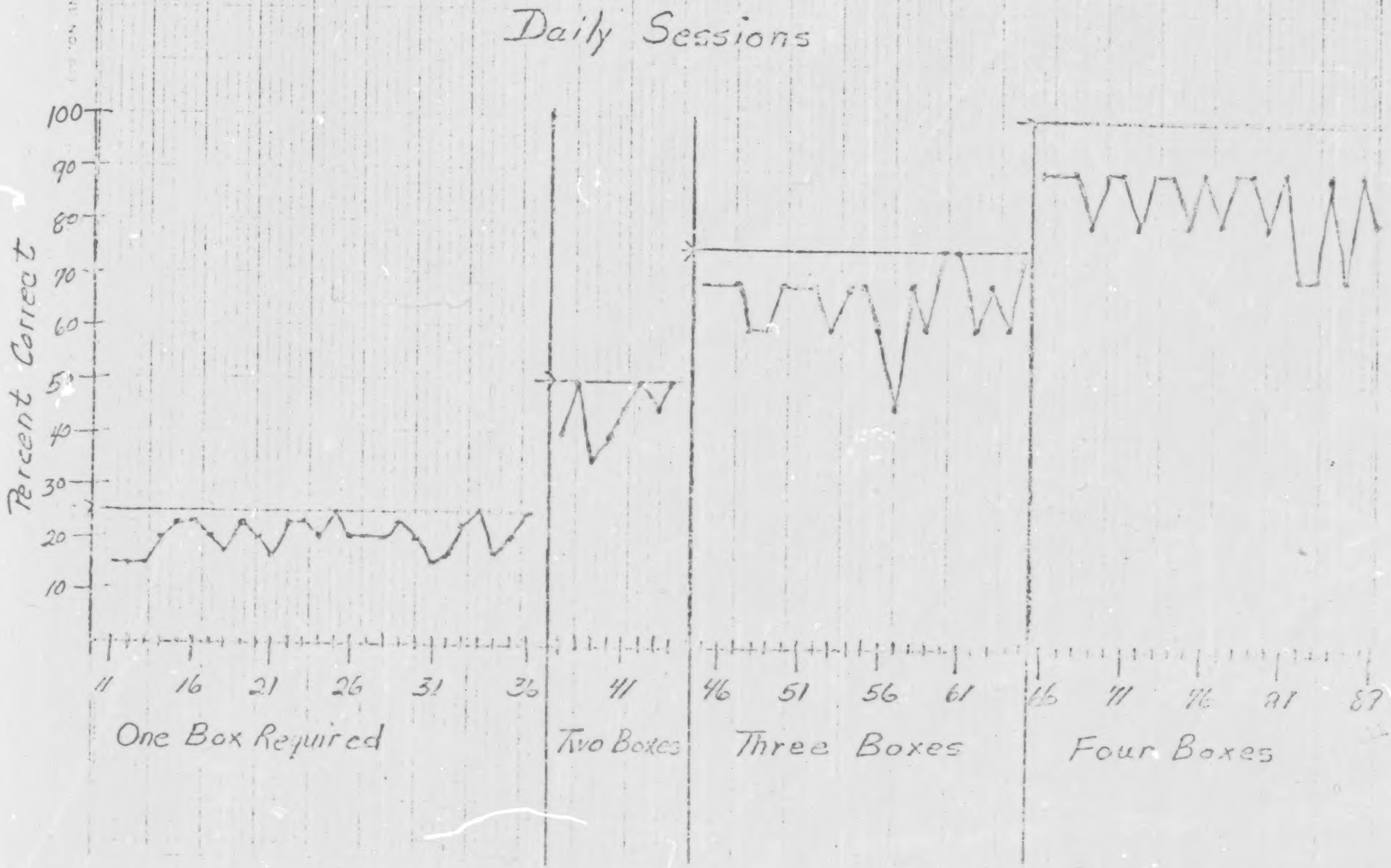
SHAPING INDEPENDENT WORK SKILLS

BEST COPY AVAILABLE



FOUR PHASE SHAPING PROCEDURE

FIGURE 3



A LINGUISTIC TEACHING/LEARNING PROCEDURE FOR READING

by

Mary Ann Deck[illegible] Martha Roberts, Roberta Alexander,
and Suzanna B. Armstrong

INTRODUCTION

Consulting teachers in several districts throughout Vermont have been developing measurement and teaching/learning procedures based on a linguistic approach to reading. Teachers in each of these districts have tried the method with some of their children experiencing difficulty in reading, and both teachers and children are pleased with the results.

Hasazi** (1970) developed a teaching/learning procedure including systematic social reinforcement for correct responses and a linguistic procedure for training incorrect responses. This procedure included discrimination training, rhyming, and word building for word families. A word family is a sound pattern which, when combined with other sounds, form a group of words which are similar in sound. For example, cat, rat, and hat are all members of the same word family, the "at" family. These systematic procedures included recognition of words in the same family, discriminating words in the same family from other words not in the family, rhyming words in a particular family, writing words, and reading stories made up of words that were learned.

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* S. Hasazi and M. McNeil in the Chittenden South School District: M. Conlon in the Washington Northeast School District: B. Schreider in the Chittenden Central School District; and M. Klann in the Ludlow School District.

** Hasazi, S. Acquisition of reading by a twelve year old boy through a systematic linguistic training procedure. Burlington, Vt: Special Education Program, College of Education, University of Vermont, 1970.

In Barre, the procedures have been used with children whose reading problems have been attributed to "borderline dyslexia," "retardation," "handicapped in the area of auditory perception," "non-reader" and "slow-reader." Although the procedures can be adapted to many linguistic reading series, we have used the Merrill Linguistic readers, because they are sequenced in a manner easily adaptable to the systematic procedures.

Entry Level Test

1. Administer entire entry level word list test for Reader I, all patterned words from the first reader. Place a "+" beside the correct words; a "0" beside the incorrect words. (See Figure 1)
2. If the child scores less than 90% correct, have him read orally the three designated reading pages. Place a "+" over each correct word and a "0" over each incorrect word. Then begin the teaching/learning procedures for the word family data sheet.
3. If the child scores 90% or better on the entry level test, go to the next entry level word list test. Continue word list tests until the child scores less than 90% on any one test. This will be the level on which he will begin.

Flashcard pre-test procedures

1. Tell the child which family you will be teaching. (for example: "Today we're working with the 'at' family.")
2. Present 10 cards, one at a time, from the word family, and ask the pupil to tell you the word on each card.

3. Record a "+" on the data sheet (See Figure 2) if correct within 5 seconds. Record a "0" if incorrect or no response within 5 seconds, and correct by saying "The word is cat, say cat." and wait for the child to say it.
4. If 90% (9 cards) of words are correct, the pupil goes to the consonant page and follows those procedures. See directions for consonant page.
5. If less than 90% is scored on the pre-test, use the training procedure.

Training Procedure

1. Discrimination training

   (This is learning to discriminate between members of word families and other words.)

   a. Speak 2 words, only one of which is a member of the word family, and ask the child which word is a member of the family. (example: if teaching "at" family, say "bat" and "bed".)
   b. Present such pairs until the child makes 5 consecutive correct responses.
   c. Record all responses.
   d. Verbally correct all incorrect responses without further comment.
   e. Follow correct responses with social praise.
2. Rhyming words
   a. Present a word from the family along with instructions to form a rhyme. (example: "Tell me a word that rhymes with eat.")

Teacher __________________________

Tutor __________________________

FIGURE I (Sample of Entry Level Word List)

Teacher Word List 3
(To be used for both entry level test and retention test.)

+ = correct within 5 sec. 0 = incorrect or no answer within 5 sec

WORD	ENTRY LEVEL		RETENTION TEST	
	Date	(+ or 0)	Date	(+ or 0)
pot				
cot				
hop				
pots				
lot				
mop				
hot				
dots				
pop				
Dot				
top				
lots				
dot				
not				
cots				
got				
Tom				
hops				
box				
tops				
pops				

FIGURE 2

PUPIL ______________________

DATE ______________________

TUTOR ______________________

WORD FAMILY ______________________

WORD	A PRE-TEST	C POST-TEST

B1 Discrimination Training

Circle childs answer, continue until 5 are consecutively correct.

WORD PAIRS PRESENTED

B2 Rhyming Word

Word presented by teachers with instruction to rhyme	Pupil Responses

COMMENTS

  b. Present such words until the child has made *5* consecutive correct rhymes.
  c. Record responses.
  d. Verbally correct all incorrect responses without further comment.
  e. Follow correct responses with social praise.

Flashcard post test

1. Present family on word cards again (follow procedures given in step A). Do this immediately after training procedure.
2. When post test is 90% correct, turn to consonant page. See directions for consonant page.

Consonant training

1. When post test is 90% correct, begin consonant page. (Figure 3)
2. Have the student write the word family after each consonant in one column only.
3. The child should say each word *as he completes it*.

Oral Reading from textbook

1. Show the child each sight word card for that booklet. If he does not know the word, tell him. For a specific procedure for teaching the sight words, see Burdett and Fox (1972).*
2. The child reads from the booklet containing that word family. If 90% accuracy is attained, the child may do the designated pages in the workbook before going on to the next word family. If less than 90% accuracy is scored, the teaching/learning procedures for the word family data sheet are repeated.

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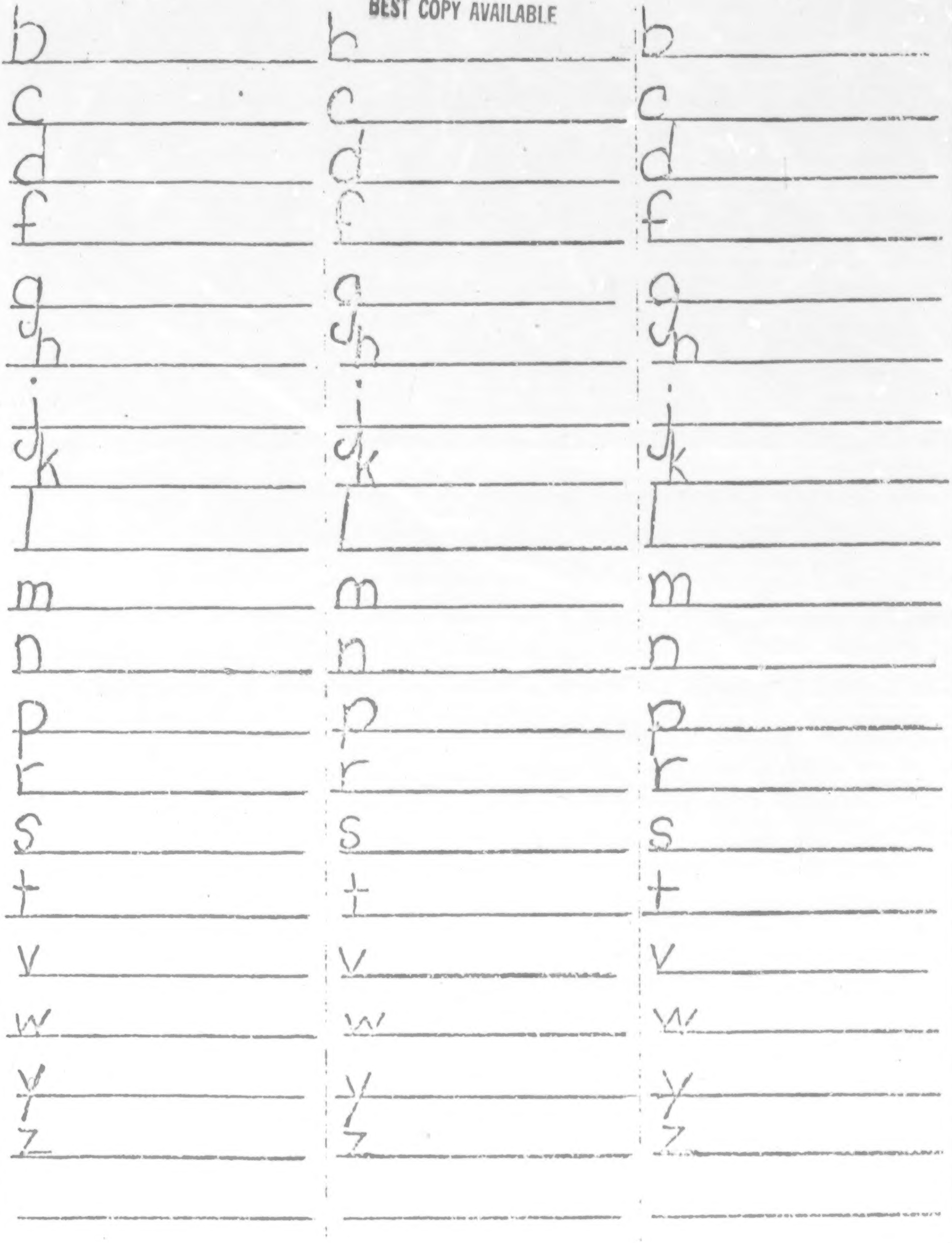
*Burdett, C. and Fox, W. *Reading Procedures*, Burlington, Vermont: Special Education Program, College of Education, University of Vermont, 1972.

FIGURE 3


b b b
c c c
d d d
f f f
g g g
h h h
j j j
k k k
l l l
m m m
n n n
p p p
r r r
s s s
t t t
v v v
w w w
y y y
z z z

Retention Tests

1. After every three word families or after completion of every consonant page, a retention test is given. This is done by testing the child on the word list page of the entry level test (See Figure 1) containing those three word families.
2. When 90% accuracy has been attained, go to the next group of word families. If 90% accuracy has not been scored, repeat teaching/learning procedures for the three word families.

Results

The following children illustrate some of the results of work done by a teacher aide in an open classroom with the aide of a Teacher Corps members, and a fifth grade teacher.

T____

Figure 4 shows the entry level and retention results of T , a ten year old third grader. As you can see, he scored only 10% correct on the entry level test with the "at", "ap", "an" families. Yet he scored 96% correct on the retention test after training procedures and followthrough in the reader and workbook, and the same is true for the other word families.

These results are very encouraging for both the teacher and the student. This student learned when a great deal of positive feedback was provided. He is a delightful little boy with a good verbal vocabulary, and can do a beautiful job moderating a panel discussion, or putting on a puppet show. He is very popular with other students and rather sophisticated in some areas. But he was a non-reader, and very easily discouraged. He would try so hard and fail so miserably, he would become frustrated, embarrassed and discouraged.

The teacher aide who conducted this study feels that "This program has been excellent for him because every day he can see what he has accomplished, and how much he has improved. All of the students that I work with using the Linguistic procedures have improved in their reading abilities, some more than others. I believe that the success of this program is due to the way that it has been structured, and also that both the student and teacher can see the student's measured progress. I am very enthusiastic about this reading program."

A

Another child who has experienced success is A. , an 11 year old fifth grader, who had repeated one year. He had been diagnosed as a "borderline dyslexic", and was reading at a first grade level in September. His teacher was quite concerned because she was aware that all his previous teachers had worked very hard with Alan, but he still was a non-reader.

Entry level tests revealed that A was weak in recognizing word family patterns, indicating a need for work-attack skills (Figure 5). However, his sight word vocabulary was much higher at entry level indicating retention of some of the work done by previous teachers. Samples of oral reading in context revealed a range from 45-74% in the first three books (Figure 6). His teacher began working with him in September, using the linguistic procedures.

A has now completed five Merrill books with 100% success at all levels, and is anxious to complete the sixth book. He has been saving paperback books all year for when he "can read" and recently happily reported that he can read some of them now!

FIGURE 4

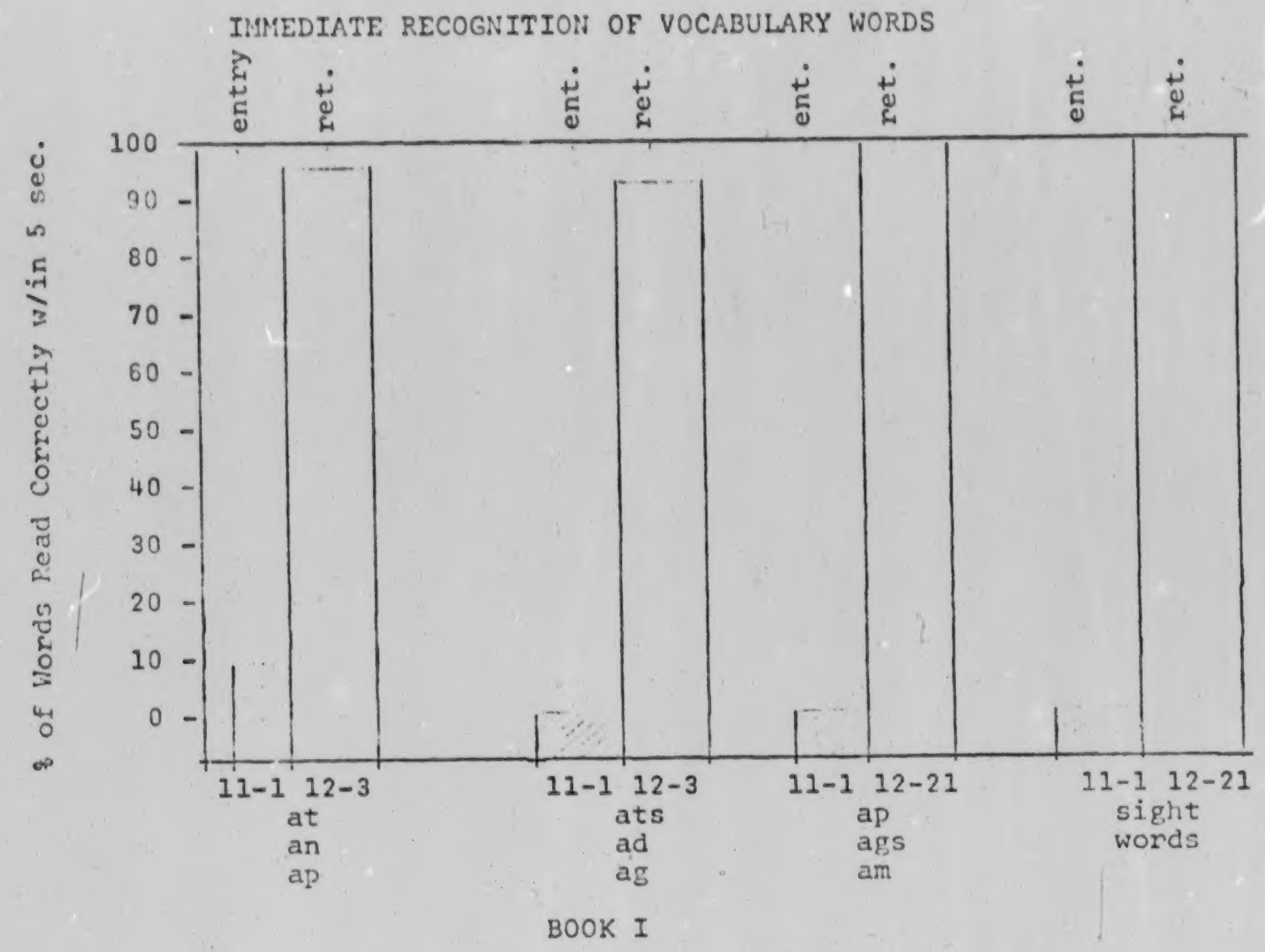

IMMEDIATE RECOGNITION OF VOCABULARY WORDS
% of Words Read Correctly w/in 5 sec.
100
90
80
70
60
50
40
30
20
10
0
entry
ret.
ent.
ret.
ent.
ret.
ent.
ret.
11-1 12-3
at
an
ap
11-1 12-3
ats
ad
ag
11-1 12-21
ap
ags
am
11-1 12-21
sight
words
BOOK I

FIGURE 5

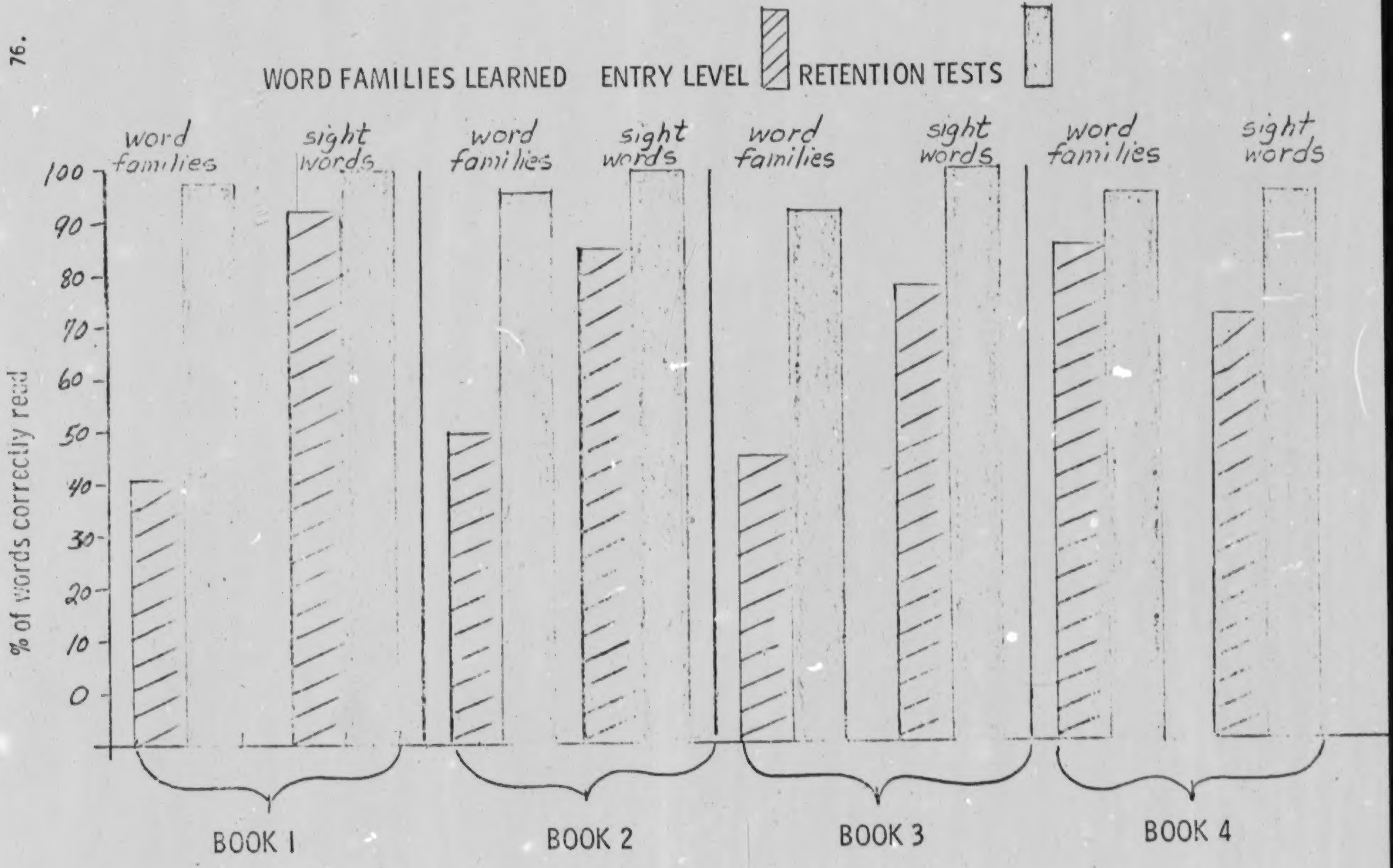
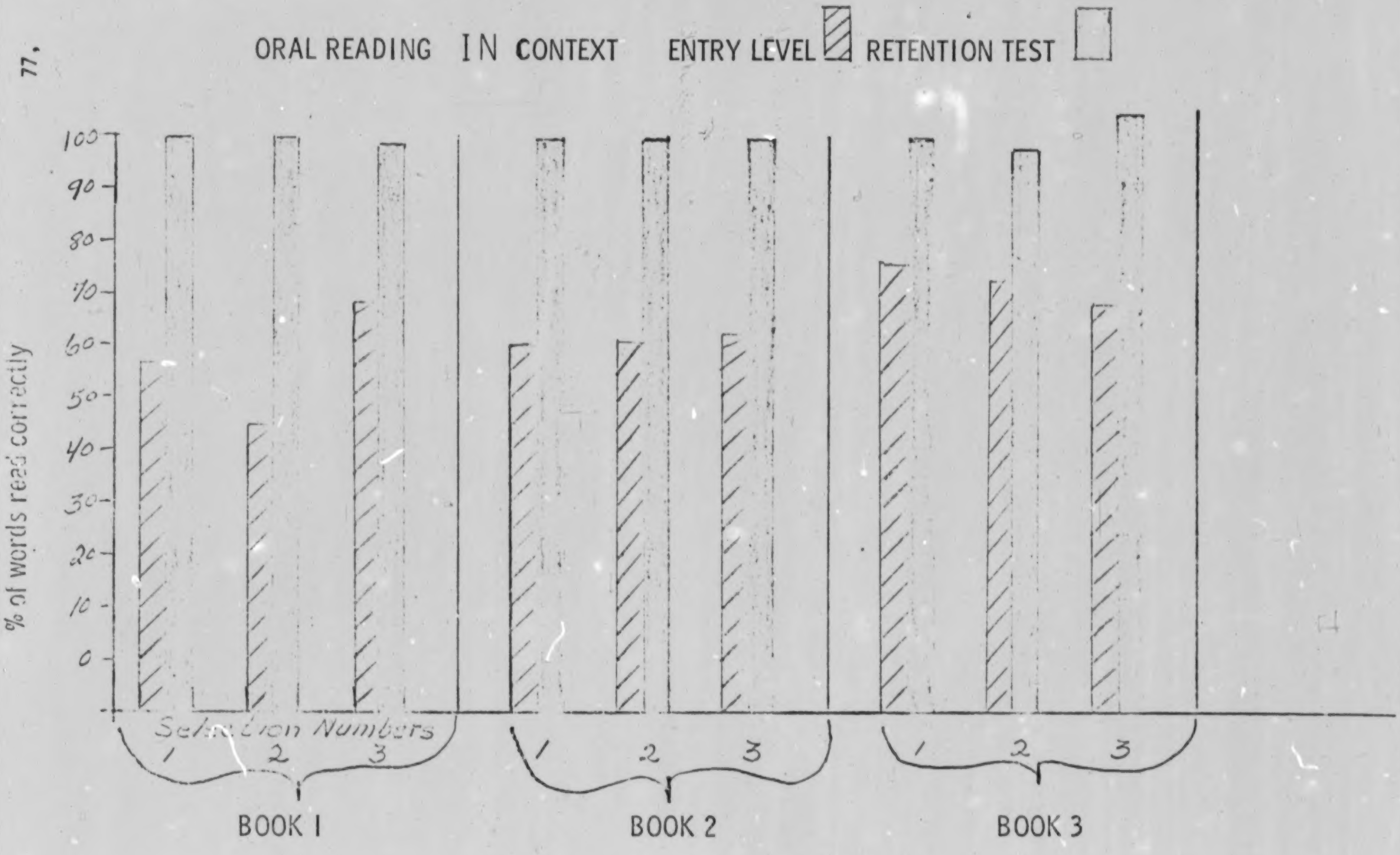

WORD FAMILIES LEARNED
ENTRY LEVEL ▨
RETENTION TESTS ☐
% of words correctly read
100
90
80
70
60
50
40
30
20
10
0
word families
sight words
word families
sight words
word families
sight words
word families
sight words
BOOK 1
BOOK 2
BOOK 3
BOOK 4

FIGURE 6

ORAL READING IN CONTEXT



J

Figure 7 shows the rate of learning achieved by most children on the program. The dashed line indicates the minimum rate required to achieve the objective of mastering word families at the rate of one new word family in one session.

The solid line is J 's graph. He has achieved at the Minimum rate of one word family per session throughout the program.

J is a second grade boy who began the program after it was found that, in addition to some severe social problems like steeline, fighting, and wandering around the school much of the day, he was quite far behind academically. It was felt that the Merrill program would provide him with success and consistency, which has generalized into other areas of his academic work. Once he began achieving some academic success, J 's behavior problems in school markedly diminished. He has been allowed to read some of his stories to the class, and to help other children with their work. Praise is important to him, and notes have seen sent home reporting good progress, for which he received positive attention.

K

Figure 8 shows the change in the rate of learning of a second grade girl on the Merrill program. It took K eight sessions to master the first word family, five to master the second, six to master the third, and after that, with one exception, she has mastered each new word family in one session.

The graph shows that the learned more slowly at first, but now she is achieving the minimum rate of one family per session.

FIGURE 7

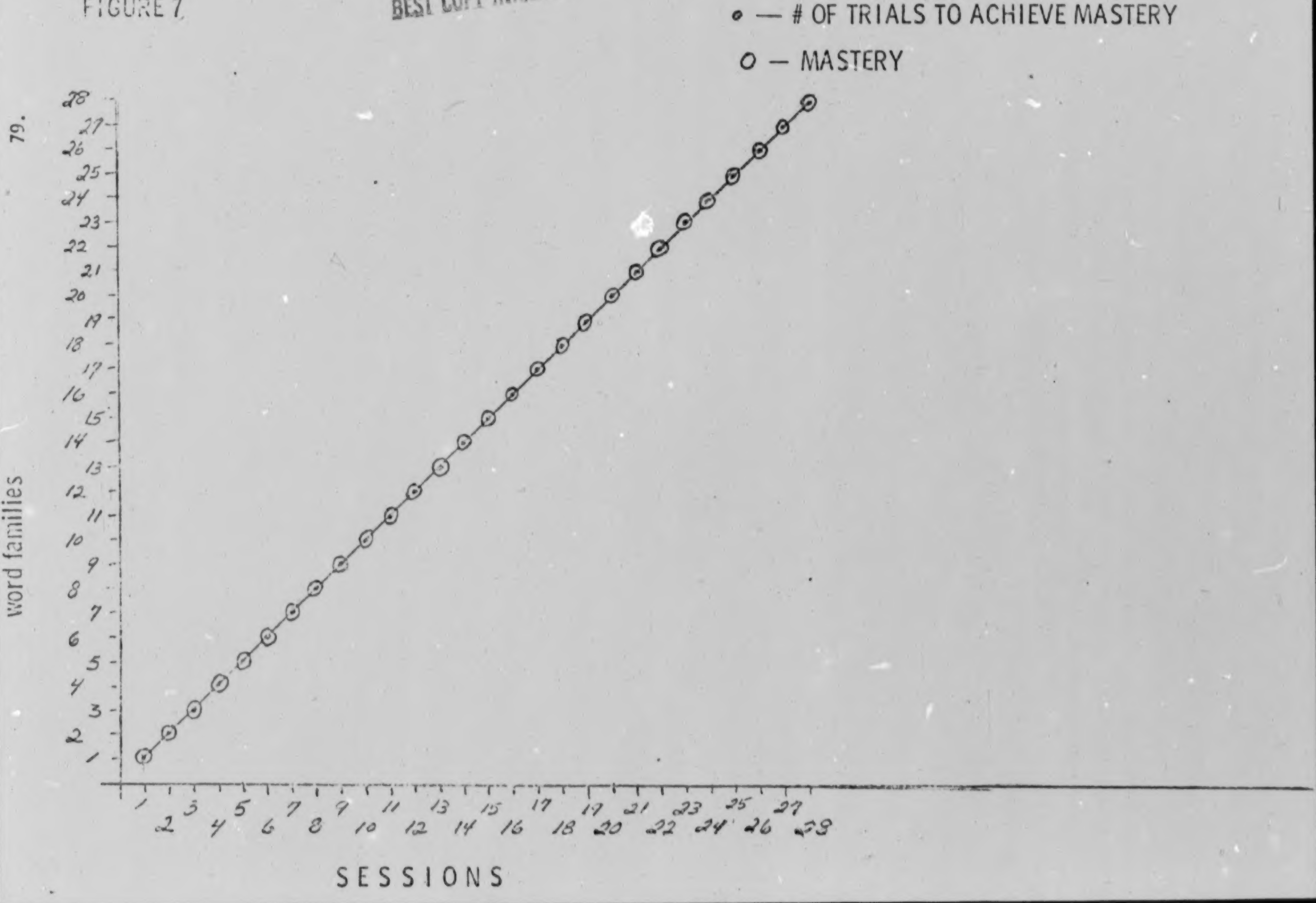
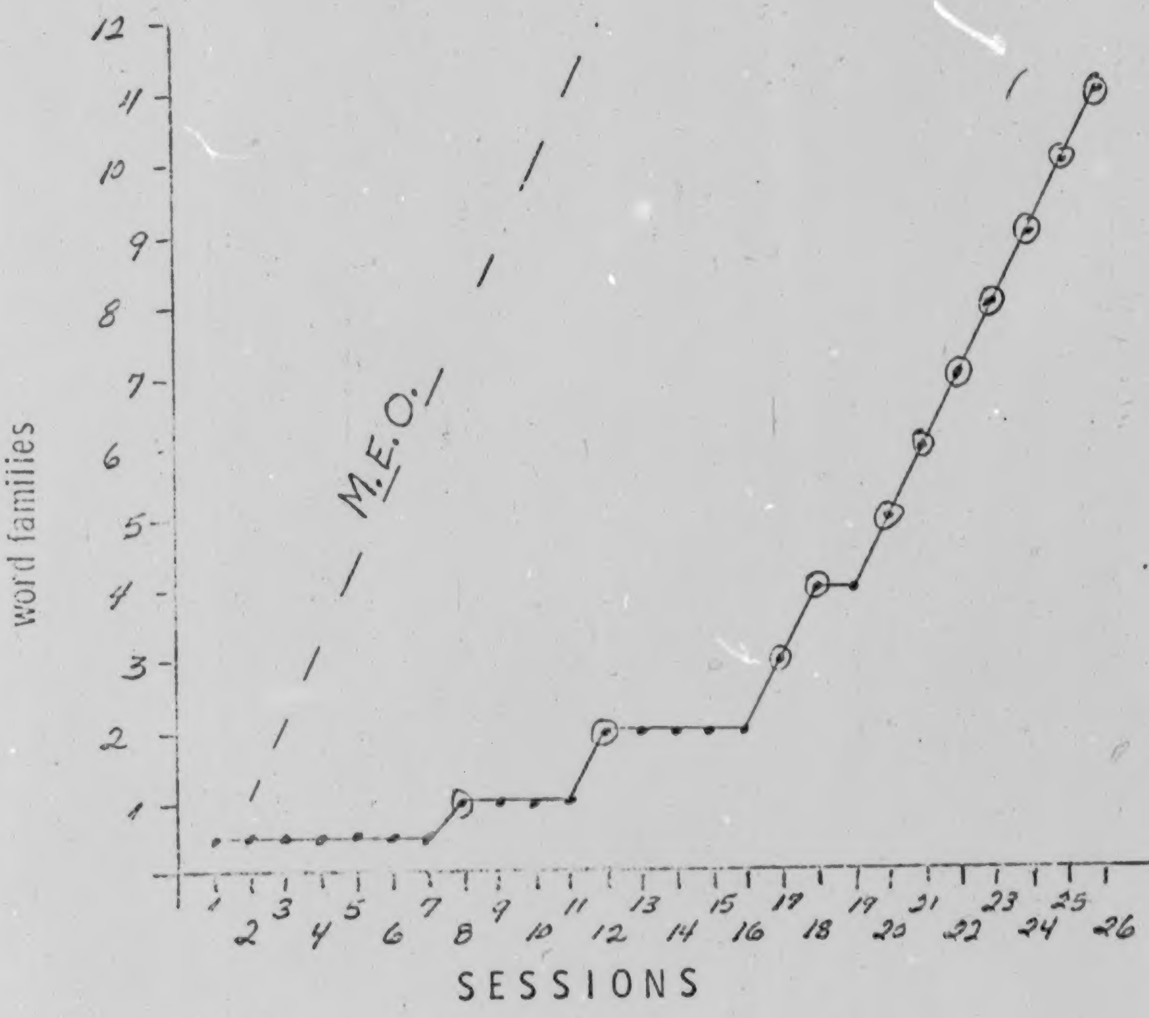

• — # OF TRIALS TO ACHIEVE MASTERY
O — MASTERY
word families
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
SESSIONS
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

FIGURE 8


word families
12
11
10
9
8
7
6
5
4
3
2
1
M.E.O.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
SESSIONS

K has been labelled "mentally retarded". However, under certain conditions the data indicates she can learn and more important, her rate of learning dramatically increased during the linguistic training program.

We have used the linguistic program with children who have a number of different reading problems. Many of them had been taught using various remedial programs without noticeable progress. However, they are making progress using this approach. This is due to the elements of the program, which include a systematic approach to word attack skills, and built in provision for success, immediate feedback, and social reinforcement.

OPEN CLASSROOMS: SUPPORTERS OF APPLIED BEHAVIOR ANALYSIS

By

Patricia Coleman, Susan Hasazi, and Mary McNeil

LEARNERS AND ENVIRONMENT

An entire open classroom involving 64 children and 3 teachers was referred because the teachers had reported that until organization and management problems were remediated, individual behavioral deficits could not be identified accurately. Major problems were time spent in moving from one activity to another, individualizing instruction, pupil motivation, and working effectively using a team teaching approach.

BEHAVIOR OF CONCERN

The dependent variable measured was minutes when the entire group was involved in the following non-academic tasks: a) taking roll call for attendance; b) recording requests for milk and hot lunch; c) distributing work materials; d) moving to and from work areas.

To insure reliability of these measures the consulting teacher aide recorded minutes of non-academic time on 1 occasion during each condition. Reliability was between 90-100% on all occasions.

TEACHING/LEARNING PROCEDURES

The class was divided into thirds and each group was instructed as to which of the 3 entrances was to be used by the group. As each child entered the classroom he checked his attendance, request for milk and hot lunch on a chart devised by the consulting teachers. Prescription packets were compiled daily for each child. These packets contained a prescription sheet listing the child's assignments, areas of the room and time for working on each assignment, the previous day's corrected papers, and "fun sheets". A point system was established which allowed groups of 5 children to earn free time at the end of each academic block. The teacher directed 1 child in each group to record points for the group when they emitted the following behaviors: a) moving from 1 activity center to another in 2 minutes - 2 points; b) no talking above a whisper when moving - 1 point; c) having necessary materials ready (pencils, paper, books, worksheets) - 1 point; d) face oriented towards teacher, materials, or peers - 1 point; e) raising hand for teacher - 1 point; f) waiting quietly for teacher - 1 point. If at least 10 points were earned during the specified academic activity time the children were allotted 5 minutes of free time to select a game or continue work on their packets. Groups with fewer than 10 points remained working at the subject area with their teacher.

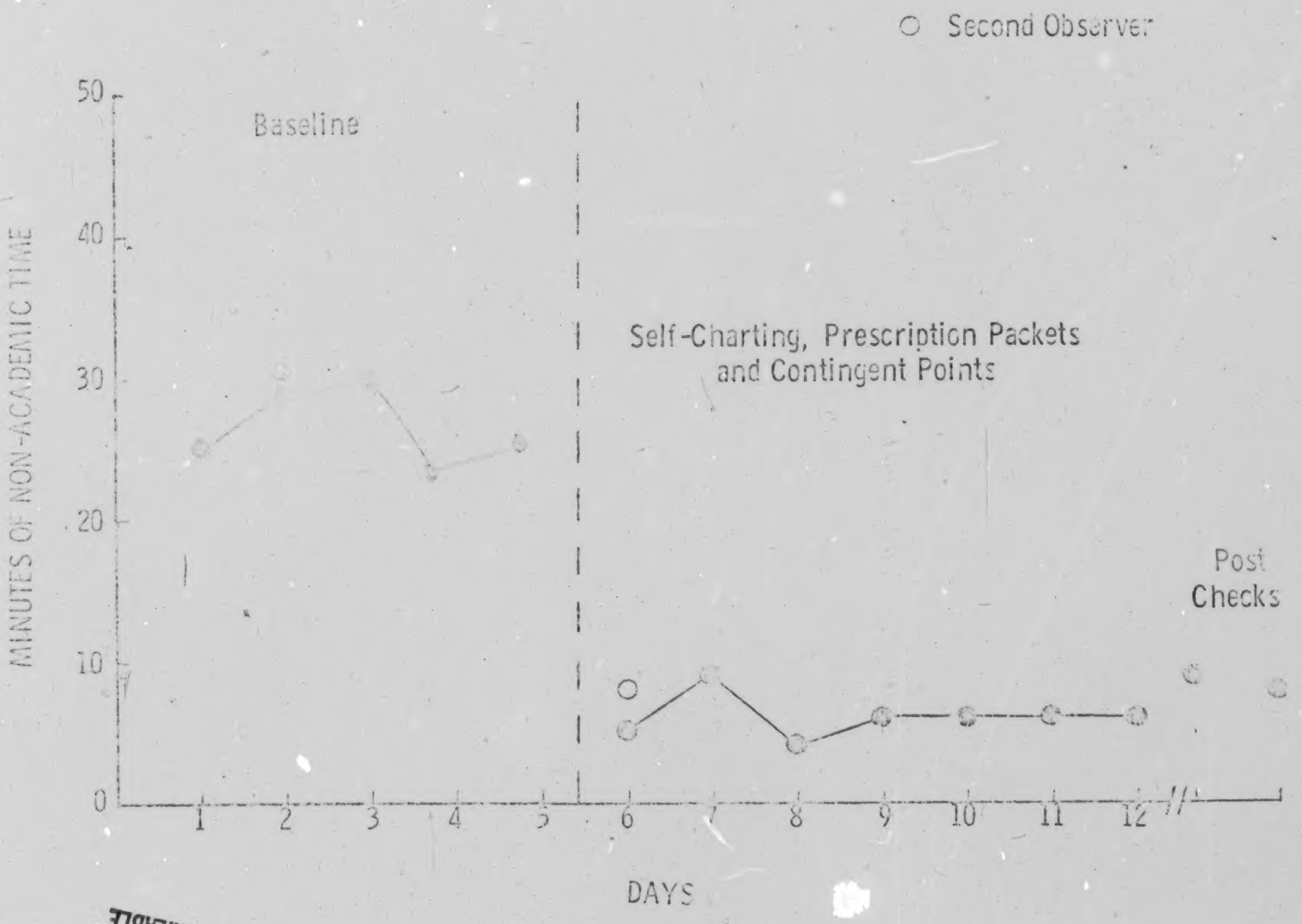
RESULTS

During baseline, minutes of non-academic time ranged from 25-31 minutes. During the experimental condition when prescriptive packets, points and free time were instituted, minutes of non-academic time dropped from 4-9 minutes. This level was maintained during subsequent postchecks taken at bi-weekly intervals.

As a result of our work we could better identify children with deficits so that individual children could be referred for consulting teacher services.

Since this time points have been removed and prescription packets are written together with the child on a weekly and contractual basis. It is no longer necessary to use free time as a reinforcer since children have become increasingly more involved in choosing and successfully carrying out their own programs.

ENTIRE CLASS



WORD ACQUISTION PROCEDURES FOR A THIRD GRADE BOY

By

Madeline Chase and Charles Jarvis

LEARNER AND ENVIRONMENT

S was an 8 year old third grade student placed in my semi-self contained classroom. She goes to other teachers for instruction in art, music and physical education and has been given a choice of science units each supervised by an aide, teacher or intern.

BEHAVIORS OF CONCERN AND MEASUREMENT PROCEDURES

S 's previous teachers characterized her as a "slow learner who was making satisfactory progress". On the Otis Lennon Primary II test administered at the end of grade I, she scored 84 on grade I. S recently scored 70 on Elementary 1 of the same test.

Because S was unable to do any of the third grade work I referred her to our Reading specialist who administered the Slossum Reading Tests. S was found to be at the preprimer level. The Reading Specialist suggested that a daily procedure be worked out for us by the consulting teacher.

Our objective was: given any story in the Scott Foresman reading series for 1st grade, Sally will read all words with 90-100% oral accuracy and will read with 80-100% comprehension.

TEACHING/LEARNING PROCEDURES

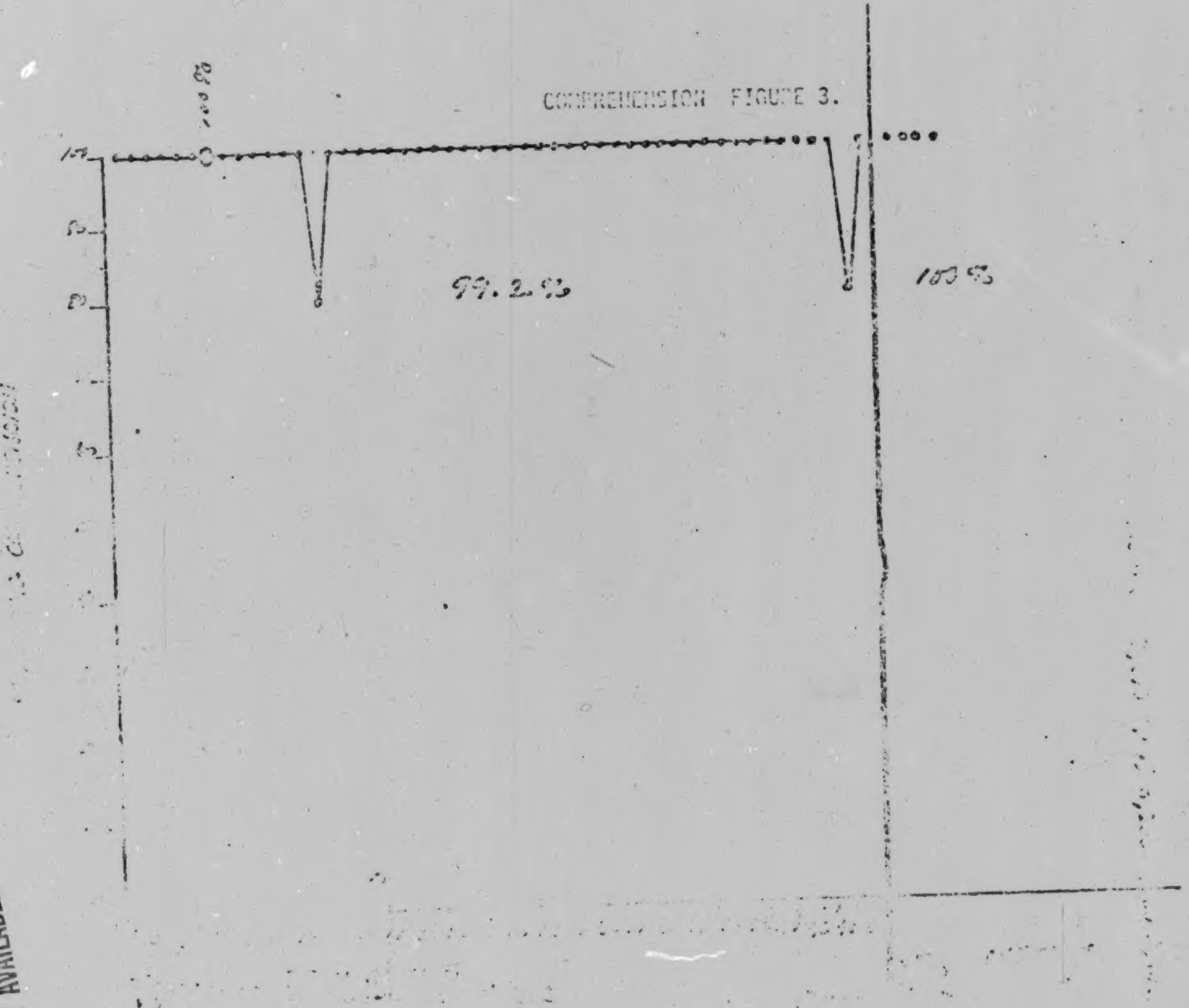
Each day Sally would go through the flash-card acquisition procedure described by Burdett and Fox, which consisted of the teacher presenting 10 different words - three times each for a total of 30 responses per learning session. The teacher recorded each response as "+" or "o". A "+" response was any response give correctly within 4 seconds. A "o" response was any incorrect response or a delayed response. When "o" was recorded the teacher said the word and had

S imitate it. When three "+" responses occurred consecutively the word was considered "learned". After S had learned the required words for a story, she read the story aloud and answered five questions to check for comprehension. About once each week a retention test of learned words was given. When appropriate S was given instruction to work at her seat independently using the accompanying workbook.

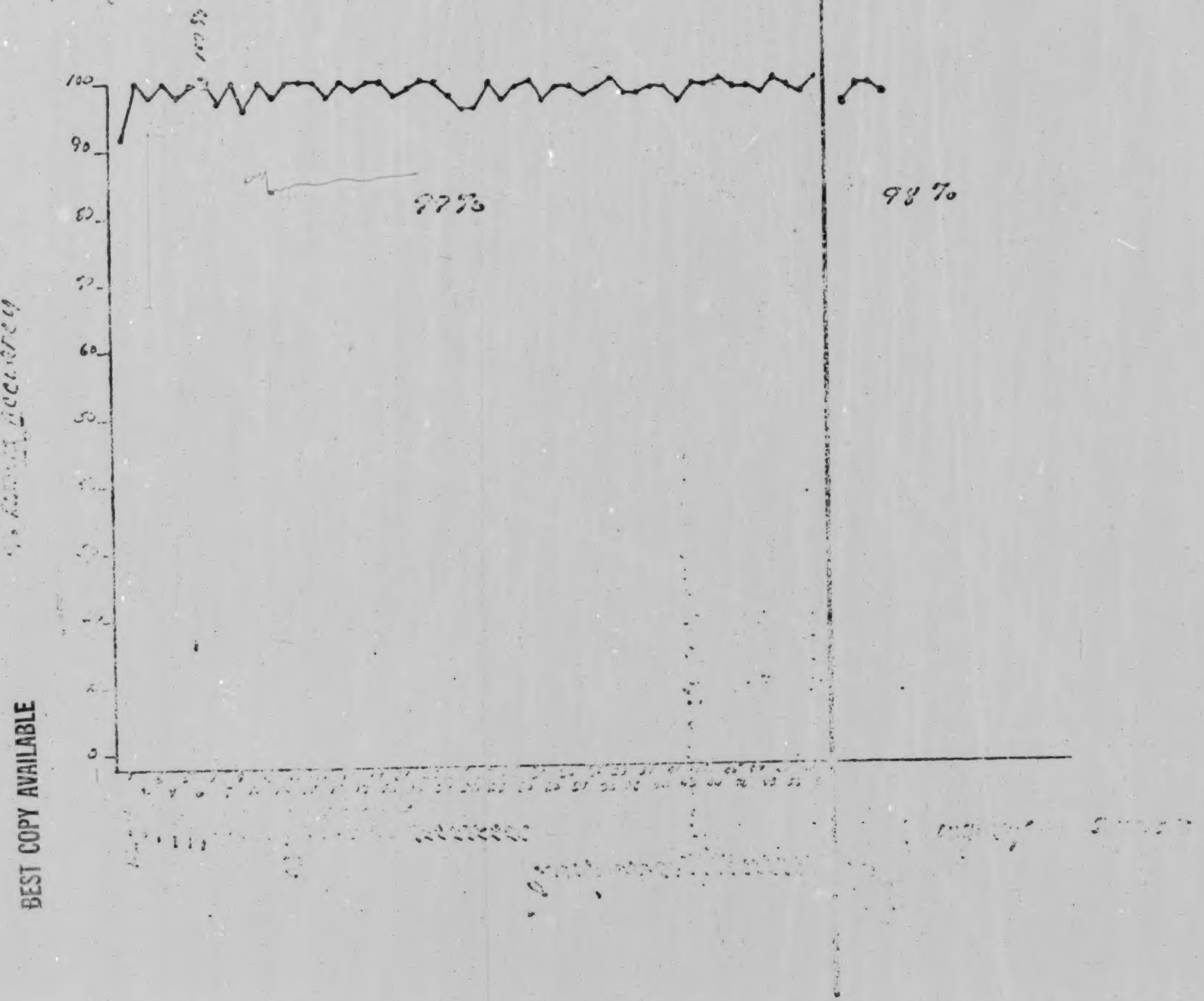
RESULTS

During 52 five minute sessions S learned 276 words or an average of five words per session. Results of oral reading accuracy are shown in figure 2. Comprehension in figure 3. Rentention of learned words is represented in figure 4.

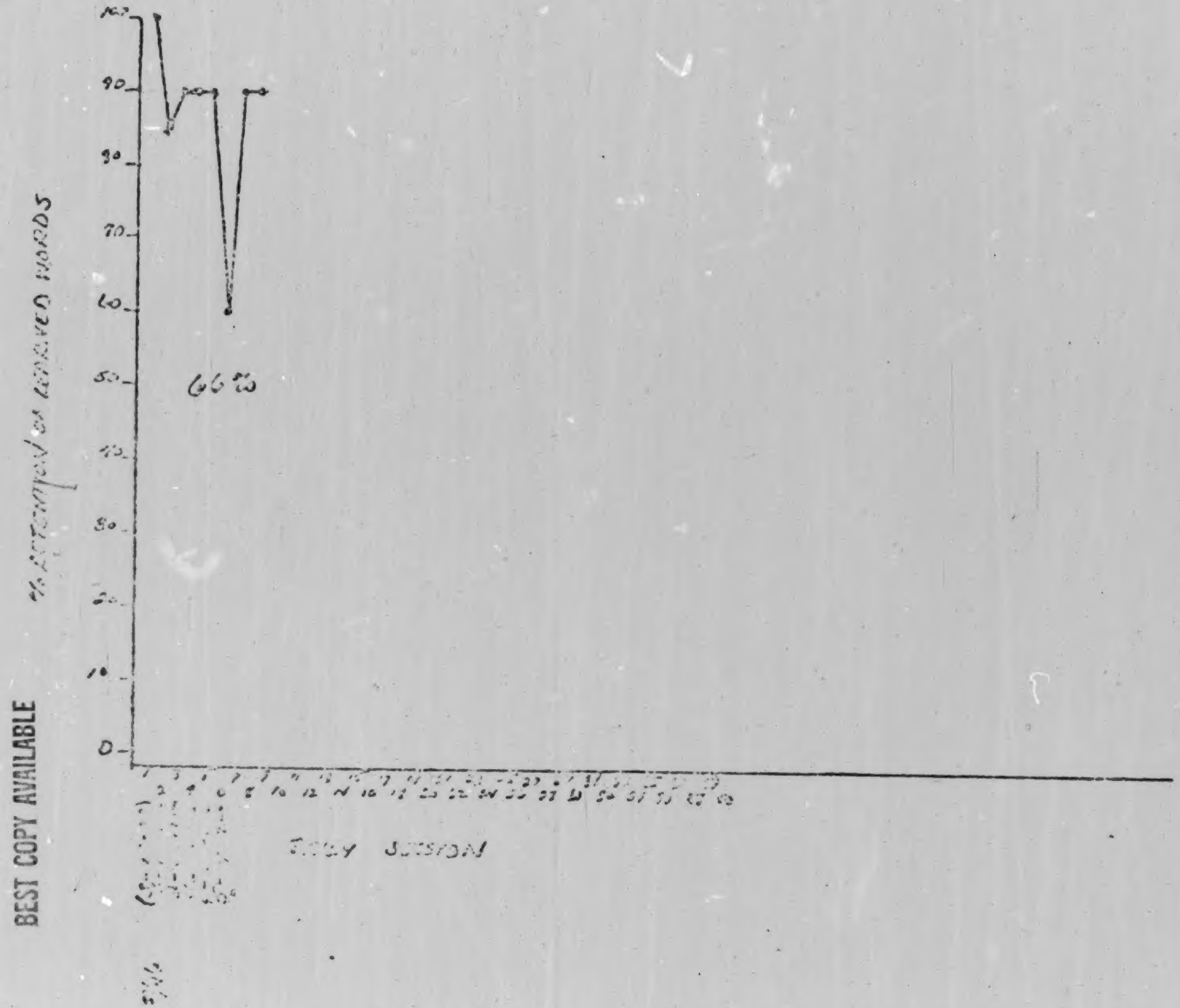
COMPREHENSION FIGURE 3.

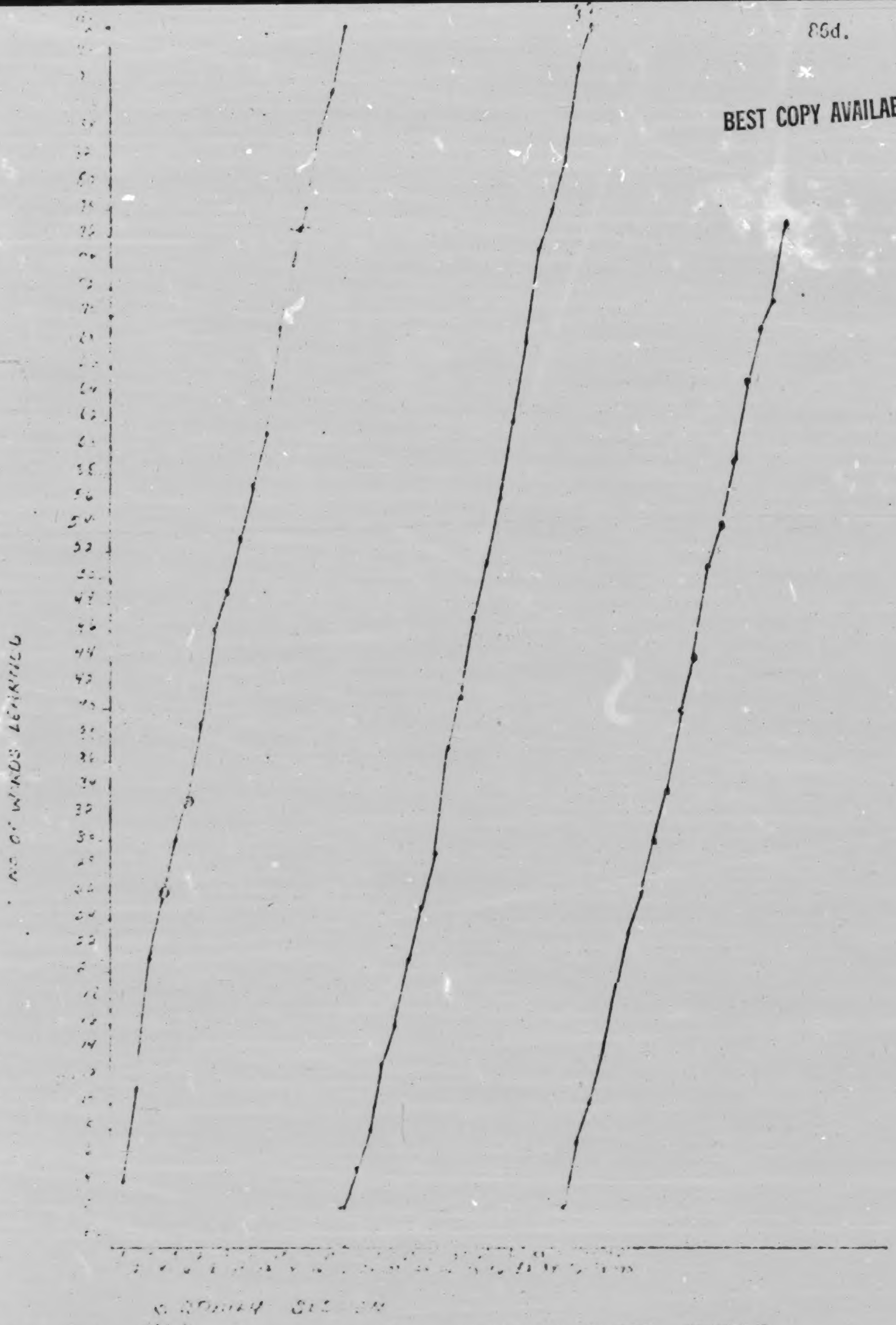


ORAL READING ACCURACY FIGURE 2.



RETENTION OF LEARNED WORDS FIGURE 4.





FLASH CARD RESULTS FIGURE 1.

THE EFFECTS OF EARNING A BICYCLE ON SOCIAL AND ACADEMIC BEHAVIOR

By

Mary Skelton and Charles Jarvis

LEARNER AND ENVIRONMENT

C was an eight year old second grade child. He was an intelligent boy but was a behavioral problem in the classroom. He often lied about finishing his work, he would bother others who were working by making distracting noises with his feet, desk and chair and by poking and hitting. He did not follow directions and usually did just the opposite of what was asked of him. C paid little or no attention when directions were given the class. Oral outbursts were frequent.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

It was because of these disruptive behaviors that C was referred to the consulting teacher.

The following objectives were derived for C :

1. During a 30 minute reading period the child will attend to his work for at least 80% of the time. (Attending was defined as being in his seat, face oriented towards the work materials or the speaker, except for getting work materials or going to the bathroom.)

2. The child will receive an accuracy score of 90% on all independent reading work. Instructional materials consisted of; Scott Foresman, second grade reading books Friends Old and New and More Friends Old and New and the accompanying workbook, teacher-made materials, and the SRA reading kit Level II materials.

During this nine day period, attending was measured every three minutes for the first half hour of the period. If by definition

C was attending, I recorded a "+", if he was not attending I recorded a "o". Thus a daily percentage of attending was calculated from the ten samples. Also during this time academic work was assigned and corrected. The score was based on the % correct of the total assigned. On two separate occasions a second observer recorded the same information.

TEACHING/LEARNING PROCEDURES AND RESULTS

Baseline: C and his reading group were given their assignements in reading at the beginning of the day, since the first hour was devoted to reading work. Baseline measures for attending ranged from 20-60% with an average of 39% attending.

POINT SYSTEM

During the second phase of the study the entire class was introduced to a point system. Children in the class could earn points during the first 45 minutes of the reading period. Points and praise were earned for; being in seat, attending, completing work, raising hand for the teacher's attention or help, etc.

During condition 1, C ' % of attending ranged from 0-100%, with an average of 54%. For a period of time it appeared that the % of attending was increasing because of the ascending slope of the graph. Due to the great variability of the data after this brief ascent, it was decided that a stronger consequence was needed; therefore condition 2 was begun.

POINT SYSTEM PLUS SELF-RECORDING

C ' mother was asked to come to school for a conference with the consulting teacher and me. At this time we asked the mother if there was anything special that C liked or wanted in the home environment. She said "Yes, he would like to have a bicycle this spring. I think I'll probably get it for him." We then asked her if she would mind if he worked for it. Charles' mother said she was willing to do anything that she could if it would help him in school.

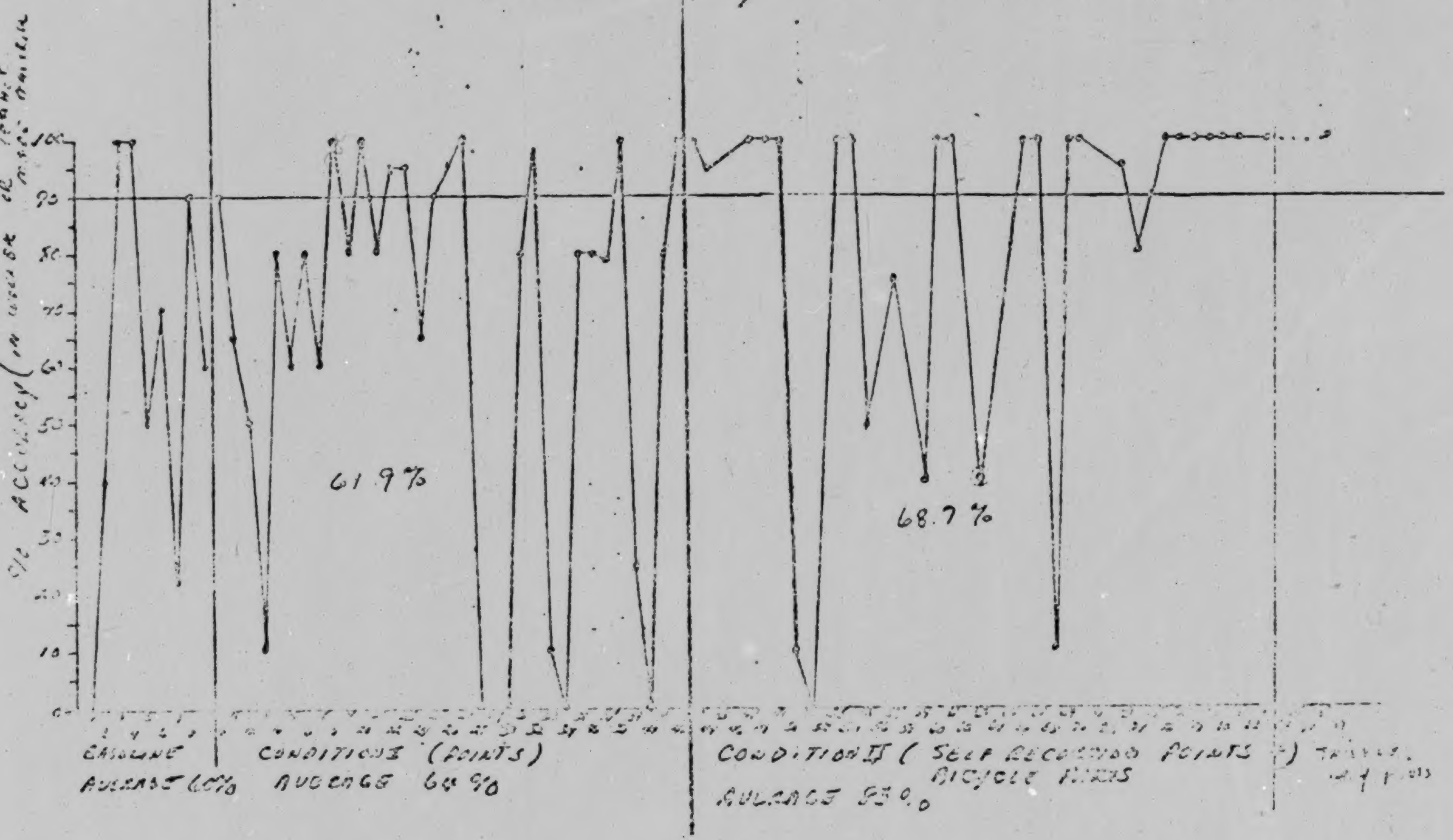
Charles worked for the bike by earning points for good study behavior. During three one hour academic time blocks in the day Charles not only earned these points but recorded his own behavior. During each of these periods a timer was set by the teacher to ring at ten randomly selected times. If Charles was in his seat and working when the timer rang he earned a point and recorded a "+" on his own card. This behavior was also recorded by me. Charles was told if he was doing anything else when the timer rang he was to record a "o". In this manner Charles was able to earn 30 points a day or a total of 150 points a week. (We later thinned this so the timer rang only 10 times during the three one-hour time blocks, but each time the timer rang he would score himself 3 +'s or 3 o's so the weekly total of 150 remained constant.)

The cost of the bicycle was set at 1300 points. A special picture chart of a bicycle was sent home with Charles to be posted on the refrigerator. Individual parts of the bicycle were labeled as to their cost. Each day the child took home a card stating the number of points that he had earned for that day. Not only could Charles earn points but he was told for which reasons he could lose them. Points could be lost at a rate of ten for each occurrence of leaving the room without permission which previously had been a frequent attention getting device. Not only would he leave my room, but sometimes he would sneak out of the school. Ten points could be lost also if another teacher, the librarian or the lunchroom supervisor reported to me that Charles had exhibited any socially unacceptable behavior in their presence. It was on only two separate occasions that Charles ever had to lose points and this was in the very beginning of this condition.

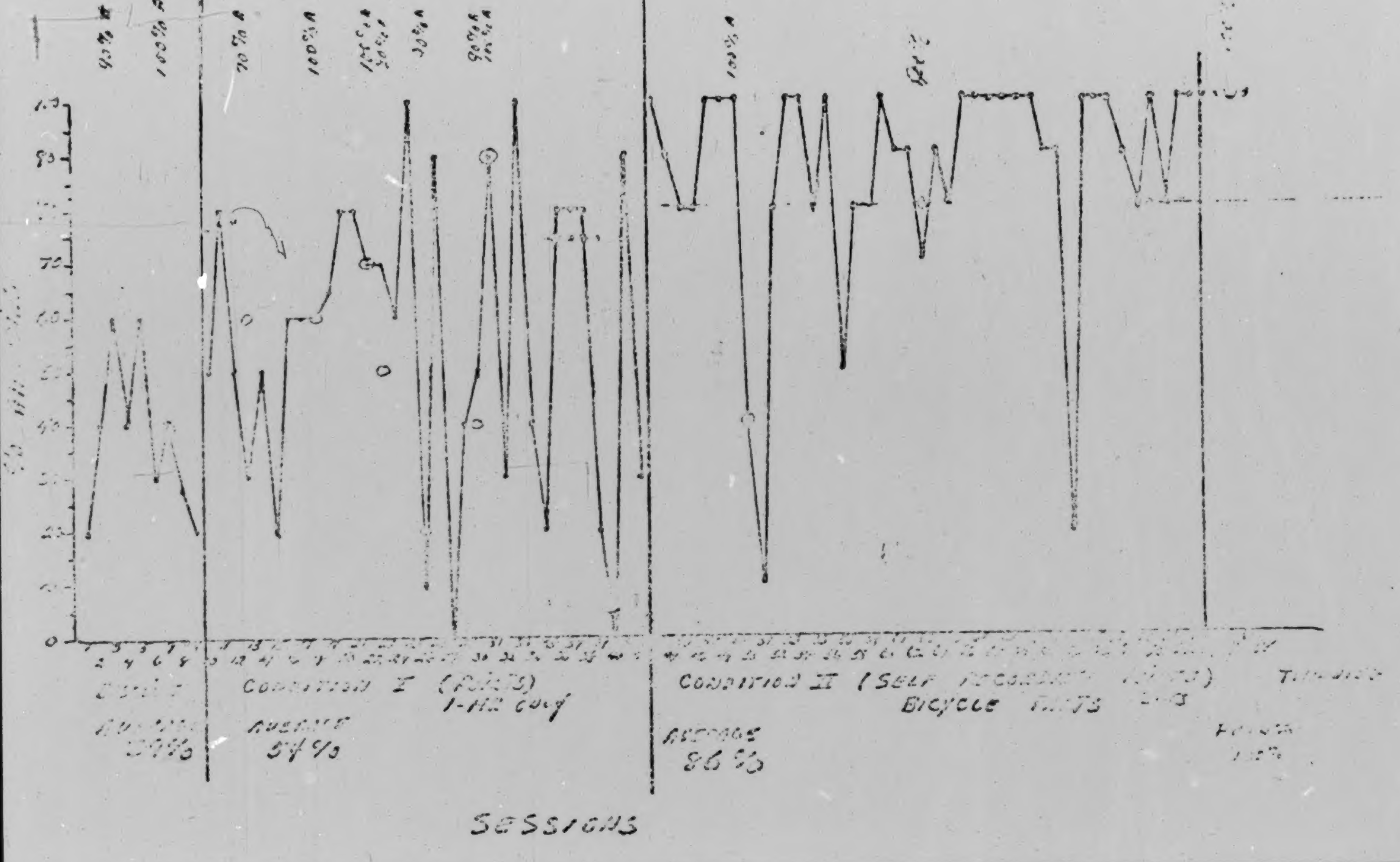
During this 45 day period the % attending ranged from 10-100% with an average of 86%. And as you can see from the graph the behavior dropped below the goal of 80% attending only four times.

In summary it appears that the combination of earning bicycle parts, self-recording, and the possibility of losing points were an effective contingency for this particular child in that the data shows a marked increase in attending and academic accuracy. It is also hoped, even though we have no substantiating data, except other teacher's positive comments, that C will no longer be labeled a disruptive child. He is now a delightful normal boy.

% ACCURACY OF READING RESPONSES



% ATTENDING DURING READING PERIOD



INCREASING APPROPRIATE CLASSROOM INTERACTIONS

By

Barbara Colf and Charles Jarvis

LEARNER AND ENVIRONMENT

Kirk entered kindergarten in Sept. of 1971. Through careful screening, it was observed that Kirk appeared to have poor large muscle coordination, was unable to hop, skip, jump, roll or walk up and down steps one foot at a time. Also at that time he had no concept of colors, numerals or letters and was unable to recognize his own name. He had a very limited attention span in whatever he was doing. His speech patterns consisted mainly of phrases or words but seldom of complete sentences.

BEHAVIORS OF CONCERN AND MEASUREMENT PROCEDURES

It was because of Kirk's inability to attend and his disruptive behavior in the class that I referred him to the consulting teacher in my building.

As a result of our conversations, we established the following behavioral objectives:

> During the school day the pupil will not run in the school building;
>
> During the quiet work period, the pupil will not leave his seat any more than once, except to go to the bathroom or to get work materials;
>
> While in the classroom, the pupil will not use a loud voice at any time.

A tally of the number of times that any of these behaviors occurred was recorded on a data sheet. This sheet was kept at or near my plan book on my desk. The disruptive behavior was so obvious that there was no difficulty in recording the frequency of its occurrence.

On several occasions the consulting teacher or his aide recorded the same behavior for half hour periods during the two and a half hour session. On all occasions agreement between observers was 100%.

TEACHING/LEARNING PROCEDURES

Baseline: During the baseline period of this study running occured on an average of 4.2 times a session, out of seat occured during the 20 minute seat work period on an average of 5.9 times per daily session and the occurrence of loud voice averaged 3 times per session.

CARD PROCEDURE

After receiving parental permission, on the 21st day of the study; the following card procedure was introduced.

The teacher divided a 3 x 5 file card in thirds vertically. Each 1/3 representing a block of time during the 2 1/2 hour session. The card was also divided into thirds horizontally. These divisions provided a span for recording the behaviors of concern which were to be marked during each time block.

Behavior	Play time	Work time	Snack time
Running			
Loud Voice			
In Seat			

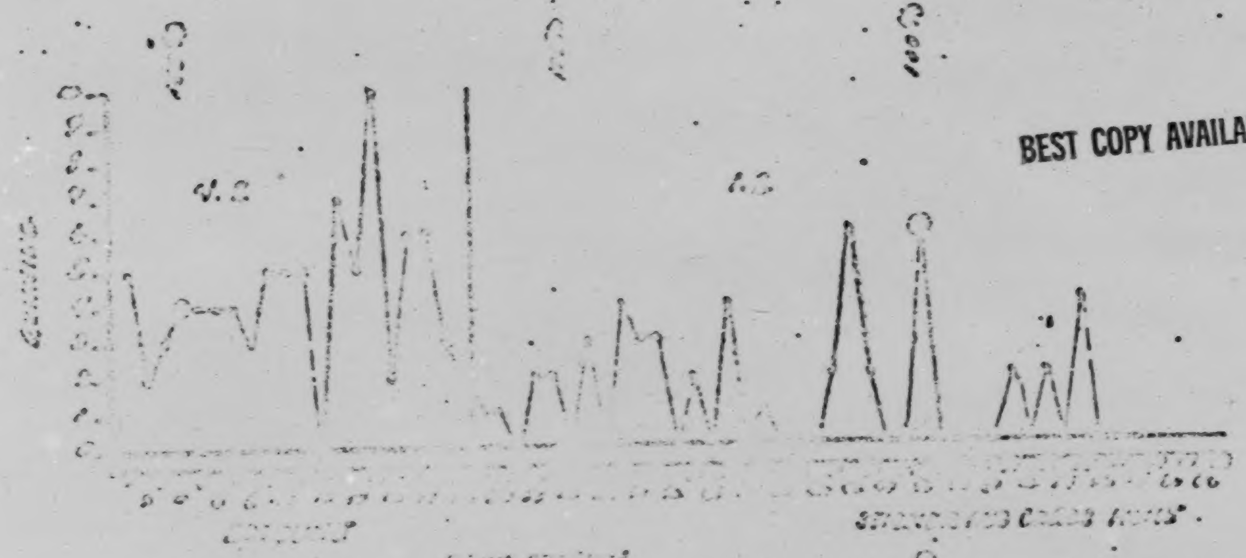
Near or at the end of play time, the teacher would go to K to discuss his good behavior during that part of the session. If K had not engaged in any of the inappropriate behaviors, he was given a choice of colorful stickers to be pasted in the appropriate place on the card. It was possible for K to earn 8 stickers per day. K took the card home each day and was given special attention and treats for any card which had at leat 6 stickers on it.

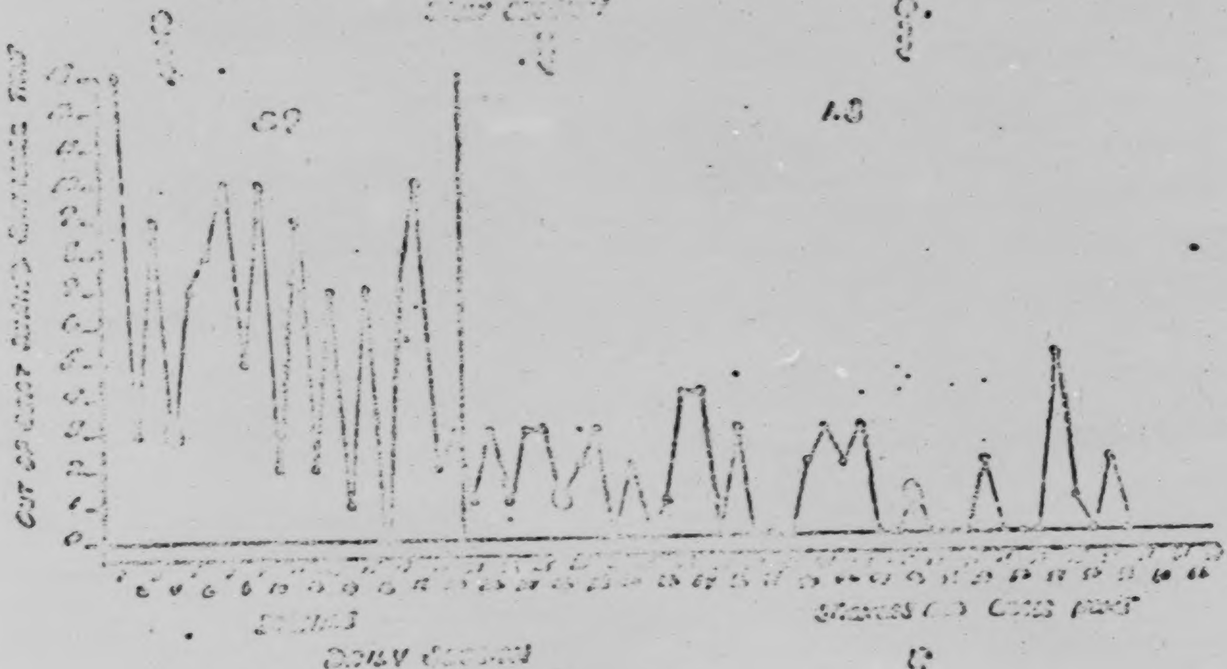
RESULTS

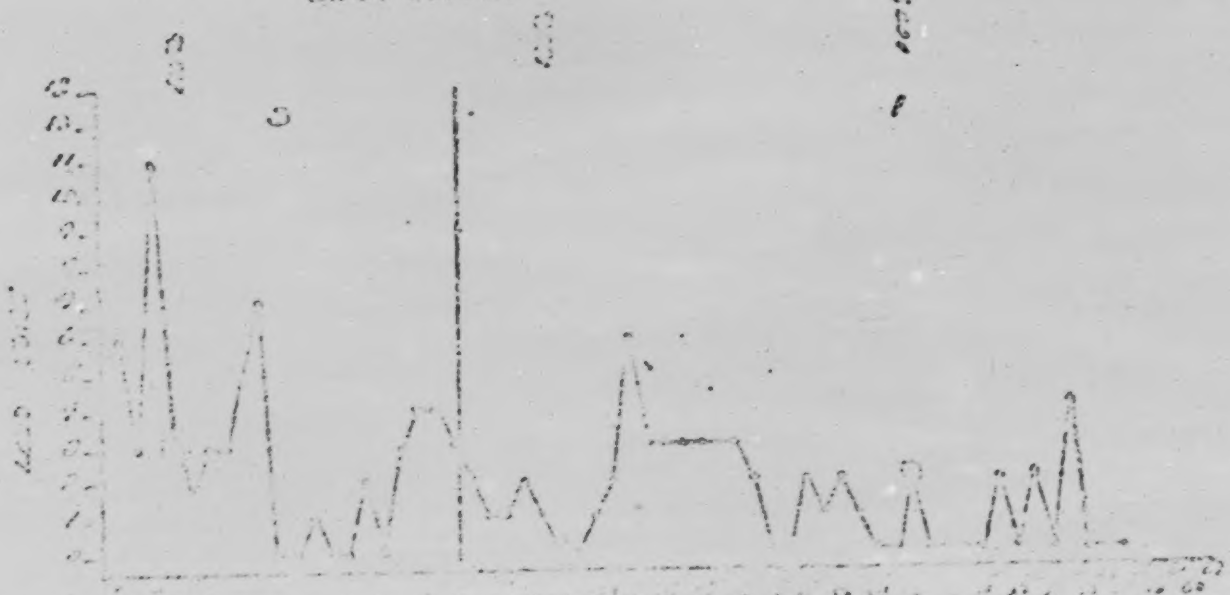
The card procedure, seemed to be effective in reducing the number of times that the disruptive behavior occurred. During this phase of the study running was reduced to about one occurrence per day. Out of seat behavior along with loud voice also was reduced to approximately an average of one occurrence per day. For nearly half of the sessions during this period the behavior reached goal level, which was zero.

Kirk's behavior has in my opinion, improved a great deal since the beginning of these proceedures. Although his attention span is still limited, he is beginning to recognize colors, and is able to work with the numerals 1 thru 4.

I feel that this is only the beginning. Perhaps if the teacher next year continues a systematic program with Kirk, we will be able to avoid the problems that some children encounter in the later years.







IMPROVING SOCIAL AND ACADEMIC BEHAVIOR FOR A FIFTH GRADE GIRL THROUGH A CLASSROOM MANAGEMENT CONTINGENCY CONTRACTING SYSTEM

By

Pat Corning, Anita Rivard and Betsy Schneider

LEARNER AND ENVIRONMENT

Rae was referred by her fifth grade Language Arts teacher because she was unmanagable in the classroom and her academic behavior was poor.

Rae was an 11 year old fifth grader in a rural school. She repeated the second grade so her actual grade level was one year less than her expected grade level.

During the 1968 and 1969 school years a child psychologist worked with Rae. She received extensive testing at this time and the psychologist stated that she scored in the normal range on the WISC. She was also diagnosed as hyperactive and received daily medication.

At the beginning of the present year the teacher said Rae was very difficult to manage in the classroom. She stated that Rae spent most of the 45 minute period out of her seat, jumping up and down, making noises, hitting other students, sitting with her legs in all positions, pulling at her clothing, talking out, and either hurrying to complete her work or not completing it at all.

She had two older brothers and her parents were cooperative in assisting in any way possible.

Last year Rae was referred to the consulting teacher who worked with the teacher. She was then able to maintain an acceptable level of appropriate study behavior.* (For further information, see Fay, Hasazi, and Egner, 1971.)

Rae was one of 25 students in a fifth grade Language Arts class. The room was arranged with five rows of desks facing the front of the room. In the back of the room was a table used as a free time area for games. The area was used after assigned tasks were completed.

Instructional Objectives for Two Behaviors

1. Given a daily language arts period from 10:15 - 11:00 a.m. the student will appropriately attend at least 90% of the period.

Appropriate Behavior:

1. Seated except when instructed otherwise
2. Both feet on the floor
3. Face oriented to paper and or teacher assigned tasks
4. Raising hand for teacher help or to make vocal response
5. Sitting upright in her own desk
6. Hands engaged in appropriate classroom behavior

2. Given a written task in a daily language arts period from 10:15 - 11:00 a.m., the student will write legibly which means at least 90% of the models will meet the following criteria:
    1. Write-overs
    2. Number of letter markings above and below the line including the letters g, j, p, y, f, and q.

Instructional Materials

Skinner B. F., Handwriting with Write and See, Book 3, Lyons and Carnahan, Inc., Chicago, Illinois, 1969.

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*Fay, B., Hasazi, S. and Egner, A. Establishing good study behavior for a hyperactive fourth grade girl through the use of a systematic token system. Burlington, Vermont: Special Education Program, College of Education, University of Vermont, 1971.

MEASUREMENT PROCEDURES

Two different measures were taken during this daily language arts period.

1. Attending behavior: The definition as given under Instructional Objectives was used. During baseline ten samples of attending behavior were recorded at two-minute intervals during each daily 45 minute language arts class. On a specially designed data sheet, the teacher recorded a "+" if Rae was attending and a "o" if she was not. This information was used to tabulate the daily percentage of attending behavior. On 15 occasions, a second observer recorded attending behavior in the same manner. An index card was used to cue the observer. The percentage of agreement between the teacher and the second observer averaged 90% with a range of 60 to 100% for the 15 sessions.

Legibility: The definition as given under Instructional Objectives was used. All written assignments were collected daily. On a specially designed data sheet the teacher recorded the number of errors and the total number of correct responses, and the percentage of accuracy per daily written assignment was then tabulated from this information.

CLASSROOM PROCEDURES

1. Baseline: Data was collected and recorded daily. The teacher used her normal classroom management techniques. The teacher praised Rae for attending and reprimanded her for not attending. From time to time the teacher also attended to inappropriate behavior with statements such as "Sit down, Rae." "Keep quiet, Rae."

Data on written assignments was tabulated daily for legibility using the measuring procedure previously mentioned. No comments were made on low accuracy papers.

2. Attending Contingency: The same measurement procedures were used for both behaviors. Conditions for accuracy criteria remained the same as under baseline conditions. Attending behavior conditions changed. The teacher instituted a classroom management system. All students were given the rules:

> In seat, feet on floor; working on assigned task; and quiet unless having raised hand and received permission to speak.

Each row represented a team. A timer was used on a VI 3 schedule. When the timer rang, on the average every three minutes, each row was checked by the teacher. If all members of a team were obeying all rules they earned a point. There were 10 such checks each day. Each team earning ten points daily had 10 minutes at the end of the period in a free time area of the room. Teams not earning the points had to continue working. Daily measures of R 's attending behavior continued to be taken daily.

The teacher explained to Rae the behaviors being measured.

3. Legibility Contingency 2: For each paper having at least 90% accuracy as previously defined, Rae was given an index card stating the percentage which she took home. For 10 cumulative or 5 consecutive cards brought home her mother agreed to give her a "surprise" (under $2). This was explained to Rae.

RESULTS

During the baseline period of 9 days Rae's attending behavior averaged 28% and ranged from 0% to 50%.

During the baseline period of 11 days Rae's percentage of accuracy in handwriting averaged 45% and ranged from 4% to 70%.

During 35 sessions of contingency, the percentage of attending averaged 84% and ranged from 40% to 100%.

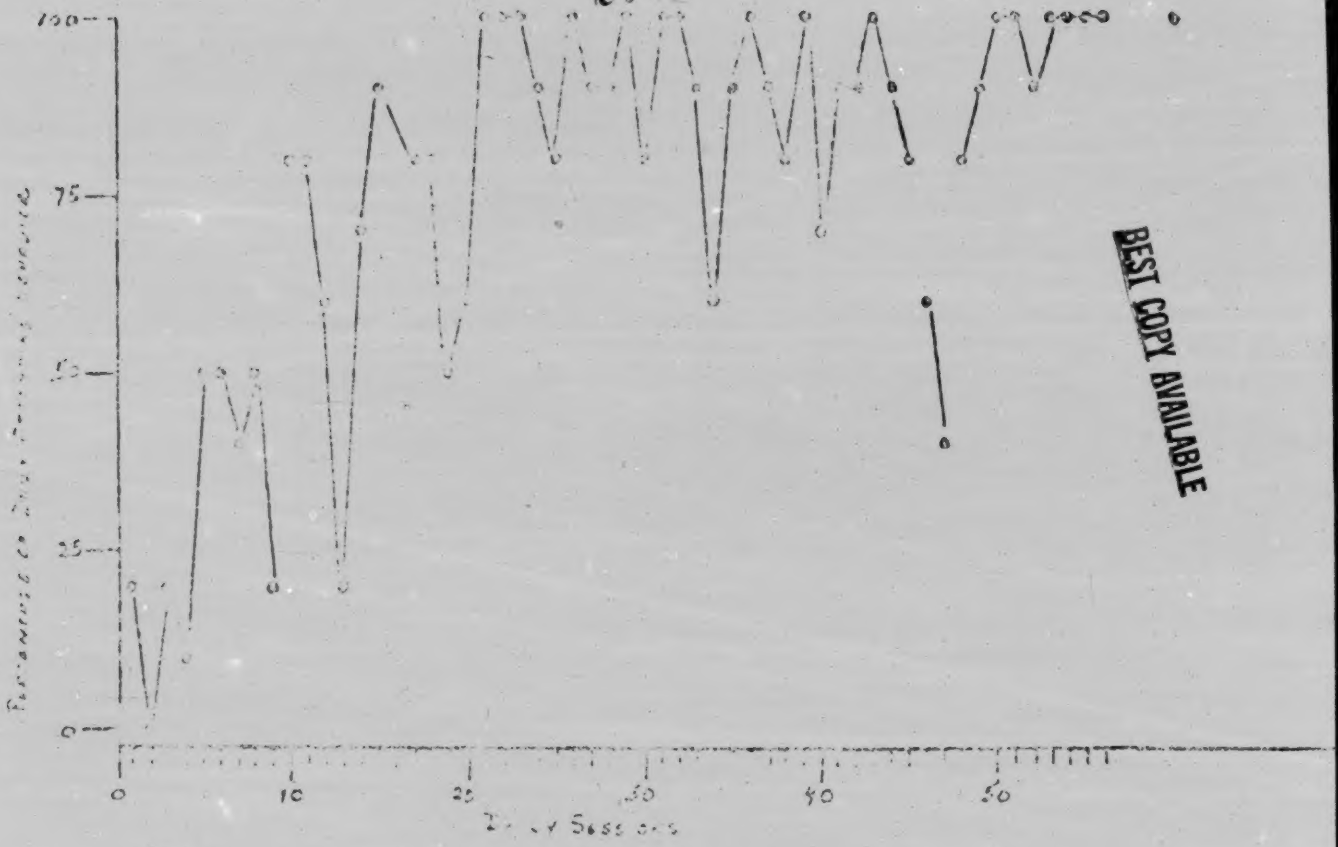
The contingency then was dropped for two sessions and the percentage of attending behavior was 60% and 40% in that order. The teacher said, "Never again will I omit the game procedure and free time contingency!"

The contingency was then reinstated for 9 sessions in attending behavior. The average percentage of attending behavior was 95% and ranged from 80% to 100%.

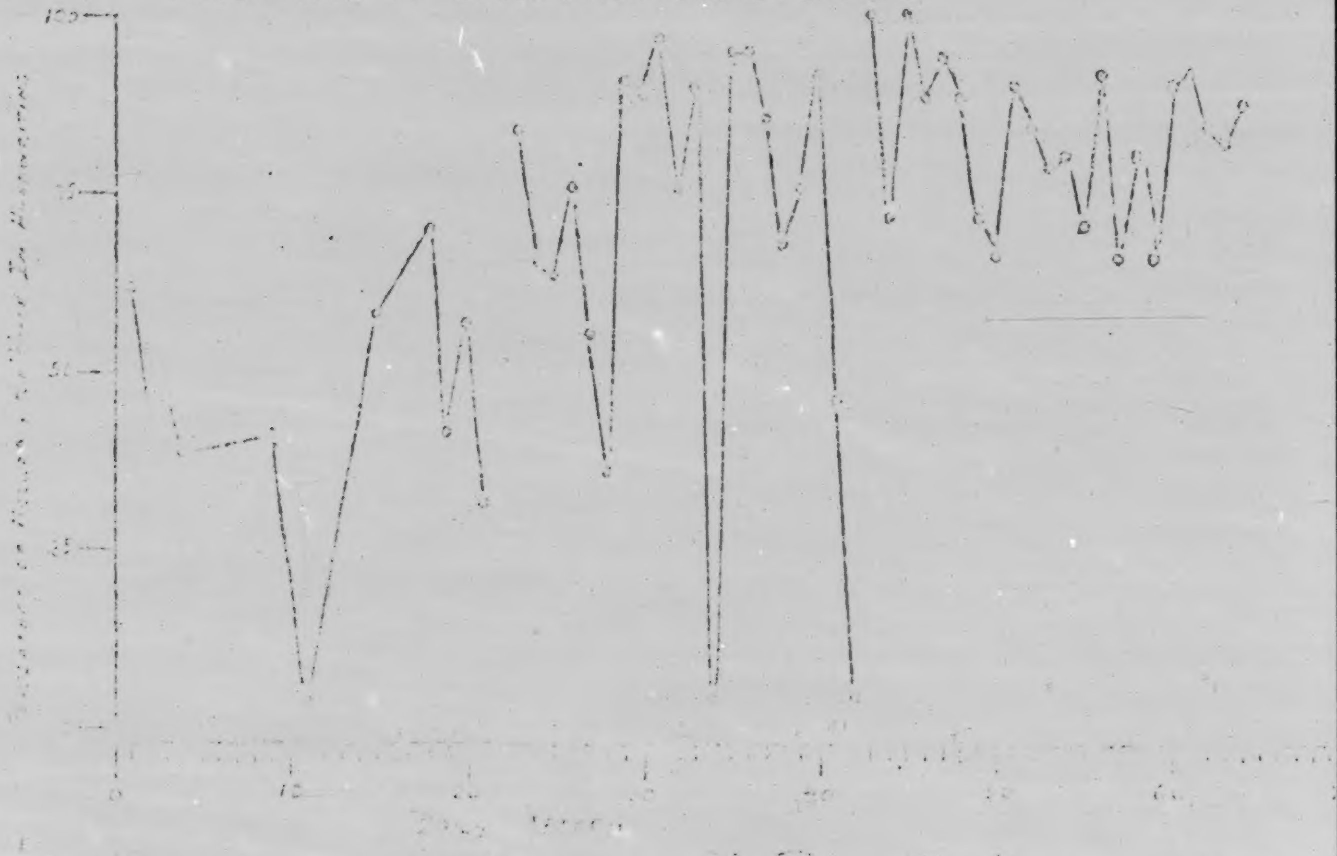
During contingency 1 of 20 days the average percentage of accuracy in handwriting was 74% and ranged from 4% to 97%.

During contingency 2 the percentage ranged from 75% to 100%.

Legibility Contingency: For each paper having at least 90% accuracy as previously defined Rae was given Handwriting with Write and See 2 and was allowed to complete two pages. Figure 2 shows the increase in penmanship accuracy for this condition.



PERCENTAGE OF DAILY ATTENDING BEHAVIOR



Percentage of [illegible] In Handwriting

EFFECTS OF REINFORCEMENT PROCEDURES
TO ESTABLISH GOOD SILENT READING CHARACTERISTICS

By

K. C. Sprout, J. Abruscato and P. Paolucci

LEARNER AND ENVIRONMENT

Bill is an eighth grader, in a class of 15 slow learners. He is a tall, good looking boy of 14, a virtual non-reader until seventh grade with a past history of classroom misbehavior and little academic achievement to date. Bill was tutored and has finally achieved enough success to read in class and do assignments at about a 3rd grade level.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES.

Bill's ten minute personal reading time was recorded in 3 minute intervals. During that time Bill was expected to get his book from the teacher's desk and read silently for ten minutes. Both getting the book and the reading were checked. Reliability checks were made with a teacher aide as an independent observer and recorded once a week during the first 3 weeks of the study. There was 100% agreement during each reliability check.

TEACHING/LEARNING PROCEDURES AND RESULTS

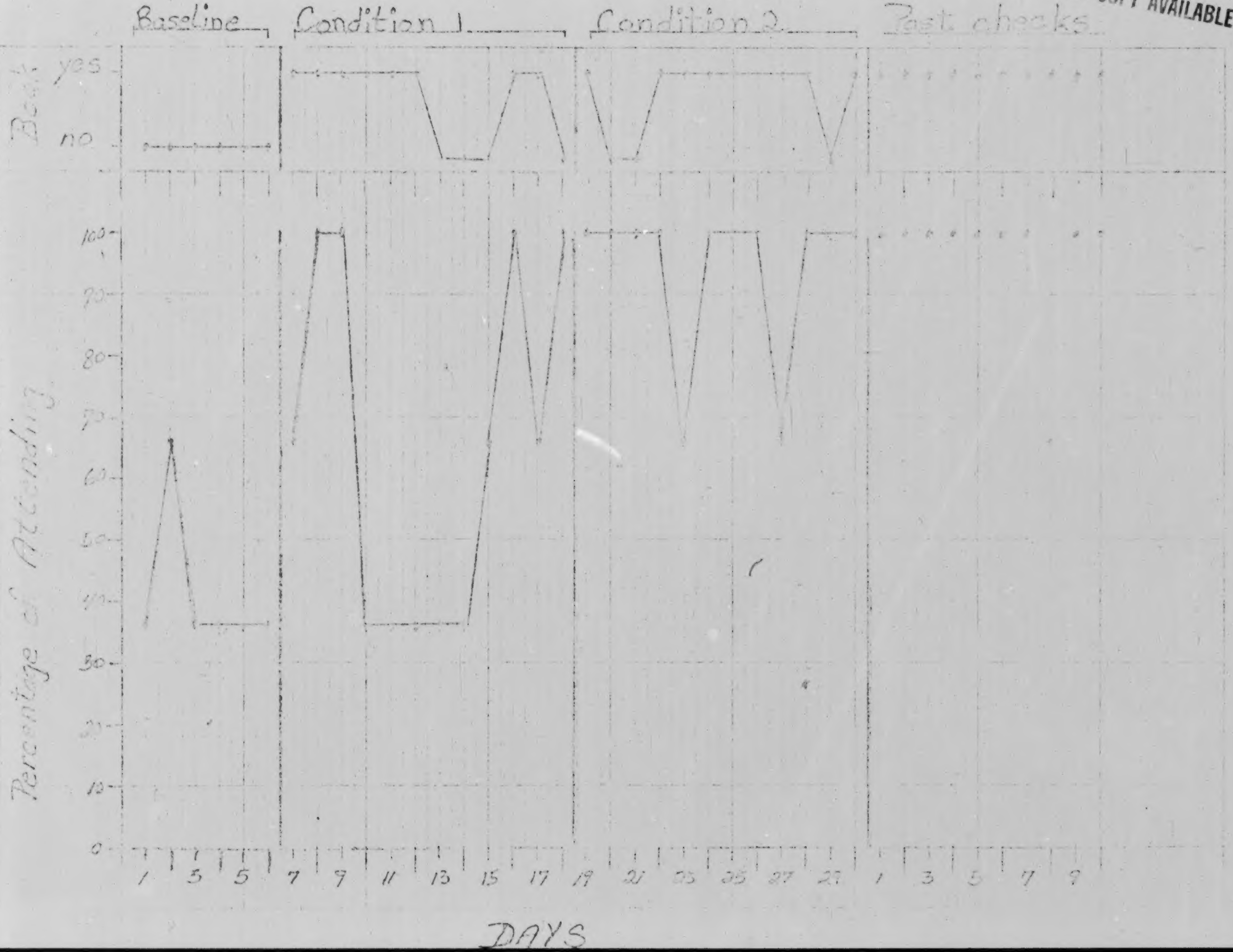
Baseline: Bill never got his book immediately on entering the room for the first week. On only one day did he actually appear to be reading for 60% of the time.

Condition 1: I discussed the problem with Bill and proposed that we keep track of his behavior to see if he could behave appropriately during the personal reading time. During the next 12 days, he went to the desk and got his book 8 days. During this period he had 100% attending behavior for 4 days- 60% for 3 days and 0% for 5 days.

Condition 2: At this time I changed procedures. If he got his book and began reading immediately, he had to read only 2 pages and then he would be allowed to read a magazine of his choice for the remaining time, We also agreed that he would sit apart from the others. With these two changes B got the book 9 days upon entering the room and read an average of 88% of the time.

Post Checks: Post checks taken for a ten day period shows Bill has rather firmly established the correct procedures for the Personal Reading Time.

Discussion: The problem of poor use of personal reading time was remedied by discussion and special privileges contingent on reading 2 required pages a day. The weakness of this study is that I changed two conditions at once and therefore am not sure if changing Bill's seat or allowing him to read a magazine of his choice contingent upon appropriate behavior was actually responsible for the change. The strength of the study is that I have reliable measures that Bill is now meeting my objectives during the personal reading time.


Baseline
Condition 1
Condition 2
Post checks
Book
yes
no
Percentage of Attending
100
90
80
70
60
50
40
30
20
10
0
1
3
5
5
7
9
11
13
15
17
19
21
23
25
27
29
1
3
5
7
9
DAYS

EFFECTS OF EARLY DISMISSAL FROM TUTORING SESSIONS CONTINGENT UPON DECREASED BALKING

By

E. Keene, J. Abruscato and P. Paolucci

LEARNER AND ENVIRONMENT

Bill was a 14 year old eighth grader with a history of daily tutoring periods going back to his second grade. His I.Q. on the Stanford Binet in 1966 was 104. In 1970 the Otis Lennon yielded 85 and the non-verbal 89. He is in section seven or the lowest section in 8th grade along with 14 class members.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

Problem: Balking, either initially or continuously, during instructional periods. This behavior was verbal. This also included intentional nonattendance. A 5 second interval was necessary for the balk to be counted as two separate balks. Balking behavior was noted in all classes and verified by an independent observer. The goal was to reduce the number of balks to one or less per period.

Measurement of balks was made by the teacher of the tutoring session. Reliability was made in 7 different instances with 3 different observers yielding a reliability average of 92%. Due to Bill's reluctance about making errors with strangers present, it was more difficult to get reliability checks at the same level of frequency as otherwise noted.

TEACHING/LEARNING PROCEDURES AND RESULTS

When the teacher noted little improvement in attending during a 45 minute one-to-one tutoring session, the condition was initiated that concentration without balking for 25 minutes would earn him the remainder of the period free for other activities or, with the Principal's permission, he was allowed to leave the building.

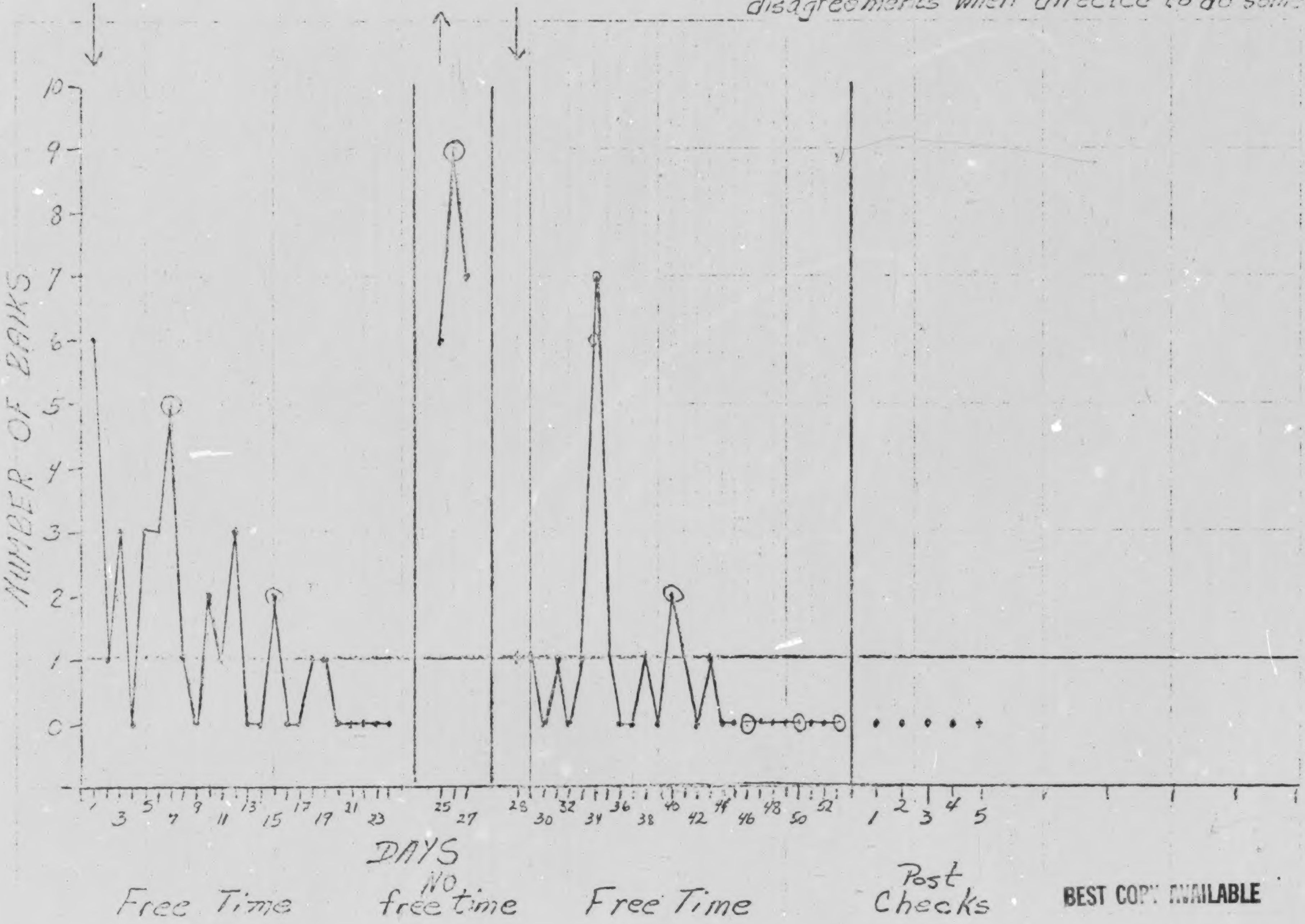
Scientific Verification was made during a reversal. Since the experimental condition was instituted prior to a Special Education Workshop the design was BAB. The average balks during the first condition of contingent free time was 1.33. Upon reversal when the subject was told to stay all period without his previous options, the average rose to 7.33 and the balks became more vehement and disruptive. When the early dismissal condition was again instituted the mean again dropped to 1.16.

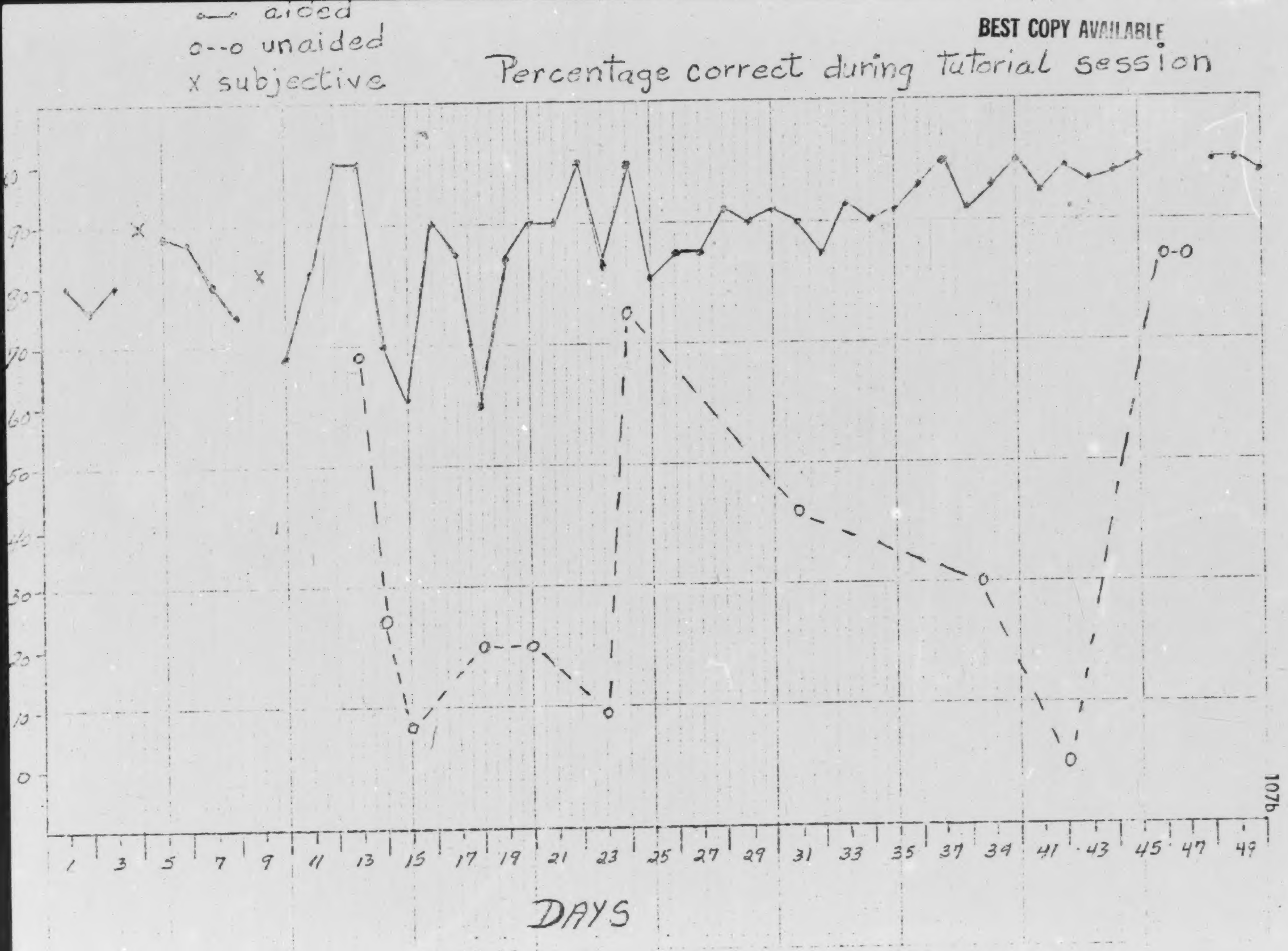
DISCUSSION

Graphing of a baseline prior to the insituation of the release time would have been benficial for analyzing the overall effect. There is no doubt that explanations without the graphing and reversal would have been worthless. The balks were noted by independent observers not only to diminish but to become so changed that it became difficult to distinguish balking from appropriate questioning behavior. When Bill had options for early dismissal at the end of the period, he began to work in earnest to earn those options, and the teacher was better able to help him accomplish specified academic objectives.

A.D. Lawton Middle School

Balks - number of arguments or disagreements when directed to do somethi





Percentage correct during tutorial session

IMPROVING APPROPRIATE CLASSROOM BEHAVIOR

By

Janet Stecklare and Cheryl Flood

LEARNER AND ENVIRONMENT

K was a 9 year old girl in a homogeneous third grade classroom of pupils, which was in a low income area. Her academic achievement level was below grade level. Her social behavior was of primary concern, however, for K continuously demonstrated inappropriate classroom behavior. She constantly fought with her peers both verbally as well as physically. Swearing, pinching, biting, and not following directions were a common occurrence. She was uncooperative and vacilated between fighting with the teacher and constantly going up to her and demanding her attention.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

It was decided to measure the frequency of disruptions in the afternoon during the 1/2 hour gym period and during the 1/2 hour independent study period. Disruptive behavior was defined as, talking, swearing, fighting, punching, pinching, biting, talking back, calling out to the teacher, interrupting others, kicking, pushing, not following directions, not playing in games appropriately, and not being ready for school on time. The frequency count was taken with a tally counter and was recorded at the end of each period. Five reliability checks were taken independently by the consulting teacher and 100% agreement was found in all but one case, which was 95%.

TEACHING LEARNING PROCEDURES

During gym period the children did exercises and participated in games. During the independent study period K worked on reading and math or language arts materials.

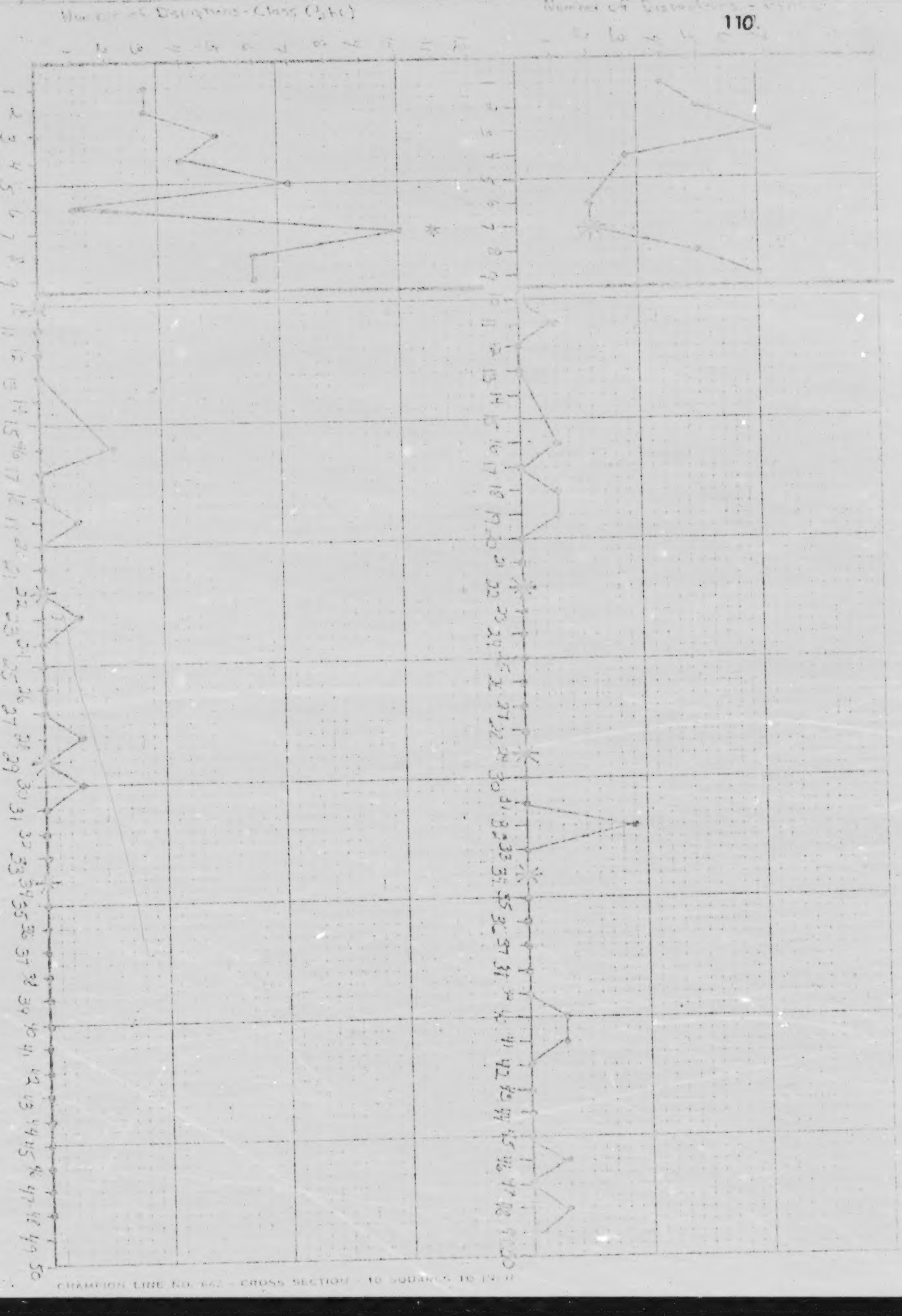
Baseline: During this period the teacher would prompt K to stop any inappropriate behavior. The teacher recorded the number of disruptions.

Contingency: The teacher met with K and discussed the problem. It was decided that K could earn points for being ready on time for each of her classes, for doing exercises in gym and for participating in the games in gym. During the work periods in the classroom, K would set a timer for ten minute intervals and could earn 2 points for each interval in which she engaged in no inappropriate behaviors. She marked her own points on an index card marked off in 100 squares. If she earned 100 points by Friday afternoon, she was able to earn a "Friday Fun" time for the whole class. The children would engage in such activities as making puppets, having popcorn and soda, field trips, a special art project, or free time.

RESULTS

During baseline K 's disruptions averaged 5 in class and 4 disruptions in gym. When points were made contingent upon appropriate behavior, the mean number of disruptions in both gym and class decreased to 0.

Apparently token points were effective in decreasing Kim's disruptive behavior. The use of a reward for the entire class proved to be a powerful consequence, for K 's peers were soon encouraging her to behave appropriately and for the first time she had friends. Kim's previously insatiable appetite for her teacher's attention decreased greatly as she became aware of the fact that she would receive it only when she was behaving appropriately.


Number of Disruptions - Class (3rd)
Number of Disruptions
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
CHAMPION LINE NO. 662 - CROSS SECTION - 10 SQUARES TO INCH

USING POSITIVE CONSEQUENCE TO IMPROVE LANGUAGE AN ARITHMETIC FOR A WHOLE CLASS

By

Elizabeth Riegelman and Cheryl Flood

LEARNERS AND ENVIRONMENT

This study involved a heterogeneously grouped second grade class of 36 pupils in an urban school in Burlington, Vermont. The class was held in two adjoining rooms and was taught by a team of two teachers. The skills room was used for instruction and independent work in reading, math, and language arts, while the learning center room contained interest areas in art, science, social studies, listening and games. At the beginning of the year, almost 2/3 of the pupils were found to be below grade level in reading and math. Left to work independently the majority of pupils did not complete work.

BEHAVIORS OF CONCERN AND MEASUREMENT PROCEDURES

Two behaviors were measured for each child in the classroom: the percent complete of pages assigned in reading, and percent complete of assigned pages in math. The percentages complete were recorded on a data sheet containing a class list. Reliability was found to be 100% by a periodic check by an independent observer.

TEACHING/LEARNING PROCEDURES

Reading materials included the Palo Alto series and SRA Basic Reading series. Math materials included teacher prepared units of instruction.

Baseline: During baseline the pupil worked on assignments in the skills room as the teacher walked around the classroom giving immediate correction and answering questions for those who raised their hands. At the end of the 45 minute period data was collected. The percent complete was found by dividing the number of pages complete by the number of pages assigned and multiplying by 100. Accuracy was an integral part of this program for all work had to be 100% correct in order to be considered completed.

Contingency: During *Contingency I* the assignment had to be completed and corrections made by the end of the 45 minute period at which time 2 token points were given on a small card. These points were combined with points given contingent on appropriate social behavior. These points were used to gain access to the learning center. Those who didn't finish their work, remained in the skills room, finished, received points, and then went into the learning center. During *Contingency II* all work had to be completed by the end of the period in order to receive points. Those children who did not finish, remained in the skills room, completed their work and went on to other assignments. "Friday Fun" was also initiated. A specific number of points was designated at the beginning of the week. All children who received a minimum of that many points, participated Friday afternoons in such activities as, field trips, art projects, and free choice time.

RESULTS

The following table summarizes the results for each pupil. For example, during baseline J (P19) completed an average of 17% in reading, which increased to an average of 91% during contingency. His math average increased from 25% to 93% in contingency. A class average percent complete was found by adding the percent that day and dividing by the number of pupils. The average during baseline was 34% which increased to an average of 92% in contingency. In math the baseline increased from a class average of 53% to a contingency average of 91%

DISCUSSION

Apparently, tokens and "Friday Fun" were instrumental in changing the completion behavior of 32 children. In reading, 23 children improved to the minimum expected objective of 90% complete or better, while the other 9 children improved to 80% completion or better. In math 20 children reached the 90% completion or better level, and the other 12 children averaged 80% and up.

Fig. 5

	READING			MATH	
	BASELINE	CONTINGENCY		BASELINE	CONTINGENCY
P24	2%	95%	P14	25%	94%
P22	10%	97%	P19	25%	93%
P12	0%	84%	P11	18%	85%
P20	7%	89%	P20	8%	74%
P17	10%	87%	P16	31%	95%
P9	18%	95%	P2	25%	86%
P3	15%	92%	P27	29%	90%
P19	17%	91%	P28	37%	95%
P11	12%	84%	P17	31%	88%
P16	18%	88%	P18	42%	96%
P30	30%	97%	P25	37%	90%
P32	34%	99%	P23	40%	92%
P26	33%	96%	P31	46%	95%
P4	32%	94%	P4	48%	94%
P18	35%	98%	P22	55%	98%
P7	37%	98%	P21	43%	85%
P8	33%	93%	P32	45%	87%
P31	40%	98%	P29	55%	90%
P25	38%	94%	P3	67%	94%
P1	40%	93%	P7	66%	92%
P2	40%	93%	P5	62%	86%
P13	42%	93%	P12	62%	82%
P25	43%	91%	P8	81%	98%.
P10	35%	81%	P13	72%	88%
P15	53%	99%	P9	79%	94%
P28	54%	97%	P10	72%	86%
P5	45%	87%	P26	81%	90%
P6	61%	100%	P24	87%	95%
P21	48%	81%	P30	78%	86%
P29	70%	99%	P1	80%	86%
P14	78%	96%	P6	96%	99%
P27	68%	82%	P15	94%	93%

AN APPLICATION OF POSITIVE REINFORCEMENT PRINCIPLES AS PART OF THE TREATMENT OF AN AUTICTIC 3 YEAR OLD CHILD AT "FIRST CHANCE"

By

Elizabeth Harris and Robert R. DeVoid

Introduction

First Chance is an essential early education center for handicapped children ages 0-6. The main facility is located in Brattleboro, Vermont, with a subcenter which provides services for children living near Saxtons River, Vermont, a rural community in the southeastern part of the state. More than fifty-five (55) handicapped children receive specialized treatment daily at the centers. One of the unusual aspects of First Chance is that the staff works with an integrated group of several types of handicaps including visual, hearing, Downs Syndrome, autism, and speech. The educational programs are individually prescribed and quite often highly specialized, with the goal of providing each child with the skills essential for success in regular educational facilities in the area.

Description of the student

J is a 3 year old autistic child who arrived at First Chance with his dad in January of 1971. He was referred by a local pediatrician.

More than 20 years ago, Kanner* described a syndrome in children which he called "early infantile autism" and which possessed two cardinal symptoms: extreme self-isolation, present in the first years of life, and obsessive insistence on the preservation of sameness." This was a good description of J whose handsome good looks, plump, impish face and dark piercing eyes never looked at you. His spontaneous speech was limited to 5 words, except for echolalic language patterns which held no real meaning and no association with his setting. For example, while walking with his mother at the supermarket, J might yell repeatedly, "Get up, J ," "Get up, J ," "Get up, J ." Unfortunately, Jay would not stop this unusual behavior even when commanded to do so.

J classically held to ritualistic tendencies; for instance, he carried with him at all times several colored toothbrushes which he regularly hid in the most inaccessible places. He tantrumed until these brushes were retrieved, at which time he proceeded to hide them again. When J appeared satisfied and happy, he ground his teeth. He rejected any show of affection such as physical contact.

The first step: January - June, 1971

There are several methods for treating infantile autism under exploration ranging from treatment by electroshock, classical psychotherapy, modified psychotherapy, chemotherapy, and operant conditioning, each with its degree of success. However, our immediate decision was to delay any kind of treatment until we were able to observe the child over a period of time.

Thus over the next few months we observed, during daily staffings, that J increased his block play, participated in gross motor activities, and began to join in group activities such as eating snacks. He no longer carried his toothbrushes to school. He developed a close association with the physical therapist, although his imitation of gross motor skills was limited and his participation sporadic. His parents noted that J began to use pronouns at home in specifying his needs.

An Educational Environment: September - December, 1971

When we observed Jay again in September we were aware of his many advances. However, we were unable to really pinpoint how the success came about. We decided on a new approach which incorporated a task approach to learning specified skills using positive reinforcement and using precise measurement procedures. We needed to know not only what changes were taking place, but what were the effective stimuli and how often the results occurred.

Objective

The goal was to establish eye contact. With this goal in mind, we decided to establish procedures to observe and record specifically what changes were taking place.

Learning Environment and Discrimination Training

The short-term tasks began during the middle of September. We constructed a 5' x 5' plexiglass screen. Using a projector and mirror, we projected on the rear of the plexiglass screen in order to allow Jay an unobstructed approach to the screen. We photographed several series of objects such as letters and numbers, the home, familiar rooms, and the family. Each letter or number slide consisted of 3 items. J was first asked, for example, "Point to the letter (number)________". Later he was given a 2 step instruction, (for example, "Point to the letter M and then the R".) After each correct response, J was asked to look at the therapist in order to receive praise and a hug. When J gave an incorrect response, the therapist simply gave the correct answer and went on to the next example.

Reinforcement system

We included a system of rewards for J . When J identified an object, he was: 1) rewarded with a candy mint; 2) when he turned and looked at the therapist, he was rewarded with a hug and a congratulatory remark.

Measurement procedures

Each day, J 's responses were recorded on a data sheet as shown in Figure 1.

Name________________________________Date____________________

Trial	Task 1 "Point to___" Response	Task 2 "Look at my face" Response	Comments
1	x	x	
2	x	x	said no to "look at my face."
3		x	said "face"
4.	x	x	spontaneous look at therapist
5			spontaneous look
6			

Figure 1: A mock-up of the data sheet used to record J 's responses during the daily learning session. An "x" indicates correct responses.

Task 1 refers to when each slide was presented and J was given an instruction, e.g., "Point to the letter 'A'." Task 2 was recorded after each slide was presented when J was then instructed, "Look at my face." The therapist also recorded any occasion of spontaneous or echolalic speech, spontaneous (unprompted) looks at the therapist and eye contacts with the therapist.

Results

Figure 2 shows the results of the reinforcement procedures on shaping eye contacts by first reinforcing face contact; the cumulative frequency of J 's spontaneous looks; and the frequency of J 's echolalic speech. The number of echolatic responses decreased to zero. On session 5, the first eye contacts were noted. During session 6 and 7, the reinforcers were provided only when J looked at the slide without a prompt from the therapist each time it was presented. Occasions of unprompted (spontaneous) looks at the therapist increased dramatically.

Discussion

Each day the successful unprompted looks at the therapist were meticulously recorded on the charts. We then began to note unprompted eye contacts with the therapist. As the eye contacts and looks at the therapist increased, spontaneous speech also increased. These careful records helped us decide when to shift the reinforcer to our goal response.

Probably the pinnacle of success came on the 8th of December after only seven 30 minute sessions. After a correct response to a slide, J. turned to the therapist and said, "Look into my eyes," hugged his terapist, and then offered his reward to his therapist.

Records tell us many things as we measure J 's progress. However, the results are even more meaningful when J 's mother and father add their comments.

"We remember when the words, "mama and dadda" had no meaning for J . Now he hugs his father and plays with his brother and sisters. He responds to questions in full sentences. Really he's so much like a real boy, now."

"It was so wonderful when I learned how to toilet train J . I followed the specified procedure that First Chance developed successfully at school and recommended for us at home, and it worked--that day was a special day for both of us."

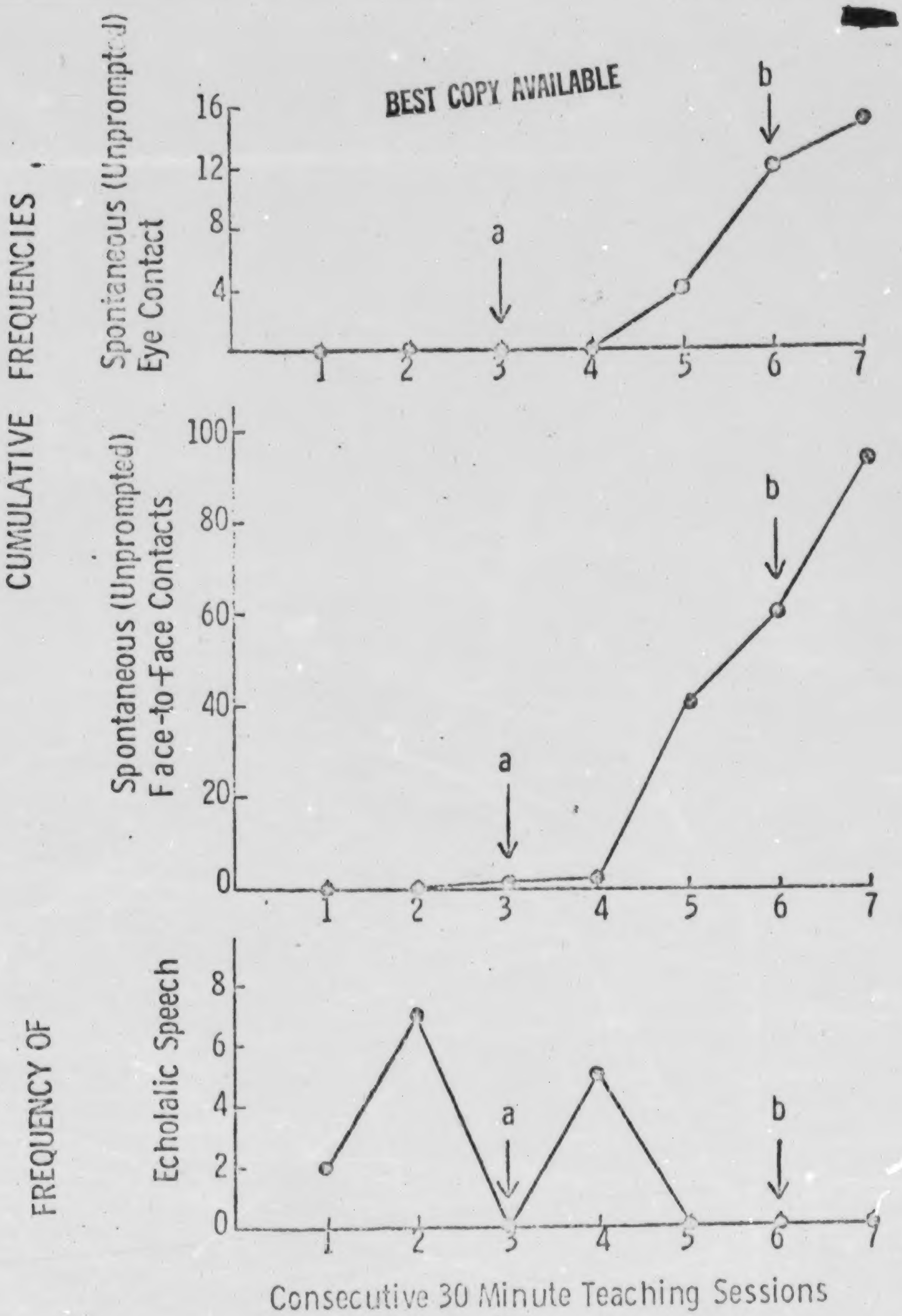


Figure 2. A graphic picture of J 's daily performance. The top graph shows J 's goal performance, the cumulative number of unprompted eye contacts. The middle graph shows the cumulative number of unprompted face to face contacts. The bottom graph shows the daily frequency of echolalic responses. At point a, two step instructions were provided. At point b, reinforcers were provided during the discrimination training session only when J looked at the therapist without a request.

INCREASING ATTENDING AND ACADEMIC BEHAVIOR BY USING A TOKEN REINFORCEMENT SYSTEM

By

Marion Faulkner and Miriam Conlon

LEARNER AND ENVIRONMENT

L is a seven year old boy enrolled in a regular second grade class. When seriously attending to work, he proved to be a very capable student. However, he rarely attended to work and thus fell way behind in accomplishing as much as his capabilities indicated he should be accomplishing.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

Each day the teacher assigned L a certain number of Math problems to complete during a half hour period. In order to record whether or not L was attending appropriately, a time-sampling technique was used. If L was actually looking at his work, he was considered to be attending appropriately. Any other behavior was considered non-attending. The teacher used a sheet marked with ten squares to record L's behavior. At the end of every three minute interval, the teacher looked at L and marked a + in a box if he was attending or a - in the box if he was not attending. At the top of the row of ten boxes the teacher marked the date, the number of problems assigned, and the number of problems completed during the session. (The teacher kept a record of the amount of work completed successfully in order to see if L was accomplishing as well as attending.) The number of +'s recorded during a session determined the percentage of attending behavior during the thirty minute period. A teacher aide acted as an independent observer. She recorded the same data simultaneously. At the end of each session the two records were compared and reliability was measured by dividing the number of teacher- observer agreements by 10 and then multiplying the results by 100. The mean per cent of agreement between observers was 90%. The teacher wanted L to achieve at least 80% attending without a reduction in the amount of work completed successfully. As L 's attending began to improve, the teacher decided to check and see if this improvement in attending during math sessions would carry over into his reading sessions. Thus the same data was recorded by the teacher and teacher aide during L 's reading sessions.

TEACHING/LEARNING PROCEDURES AND RESULTS

Baseline: Baseline covers the first ten days of record keeping. During math sessions, the mean percentage of L 's attending behavior was 27%. During reading sessions, the mean percentage of attending was 30%.

Token System Beginning with session eleven, the teacher began giving L one star for each + recorded on his data sheet at the end of each session. Then L earned one minute of free play time for each + received. At session 27 L decided to sit all by himself at a table. He did this from this session on. During the period of contingency, L 's level of attending began stabilizing at approximately 90%. After the 90% attending level had been maintained for a period equal to that of the baseline, the token reinforcement was withdrawn.

Baseline 2: After the token reinforcement was withdrawn, the mean level of attending was 93% during math and 89% during reading. During baseline 2 L sat back in his original seat.

Post Check: On February 18, 1972 the teacher and teacher aide again kept a record of L 's attending behavior during the math and reading sessions. This was done without warning L ahead of time. L attended during 90% of his math session and during 100% of his reading session. The teacher and teacher aide had 100% reliability for both sessions. L completed 85% of his math problems correctly. Post checks were continued approximately every two weeks.

Discussion This study shows that a teacher can help a child increase his level of attending by rewarding his appropriate behavior through a token reinforcement system. His level of academic achievement and his attending behavior were both maintained even after the reinforcement had been withdrawn.

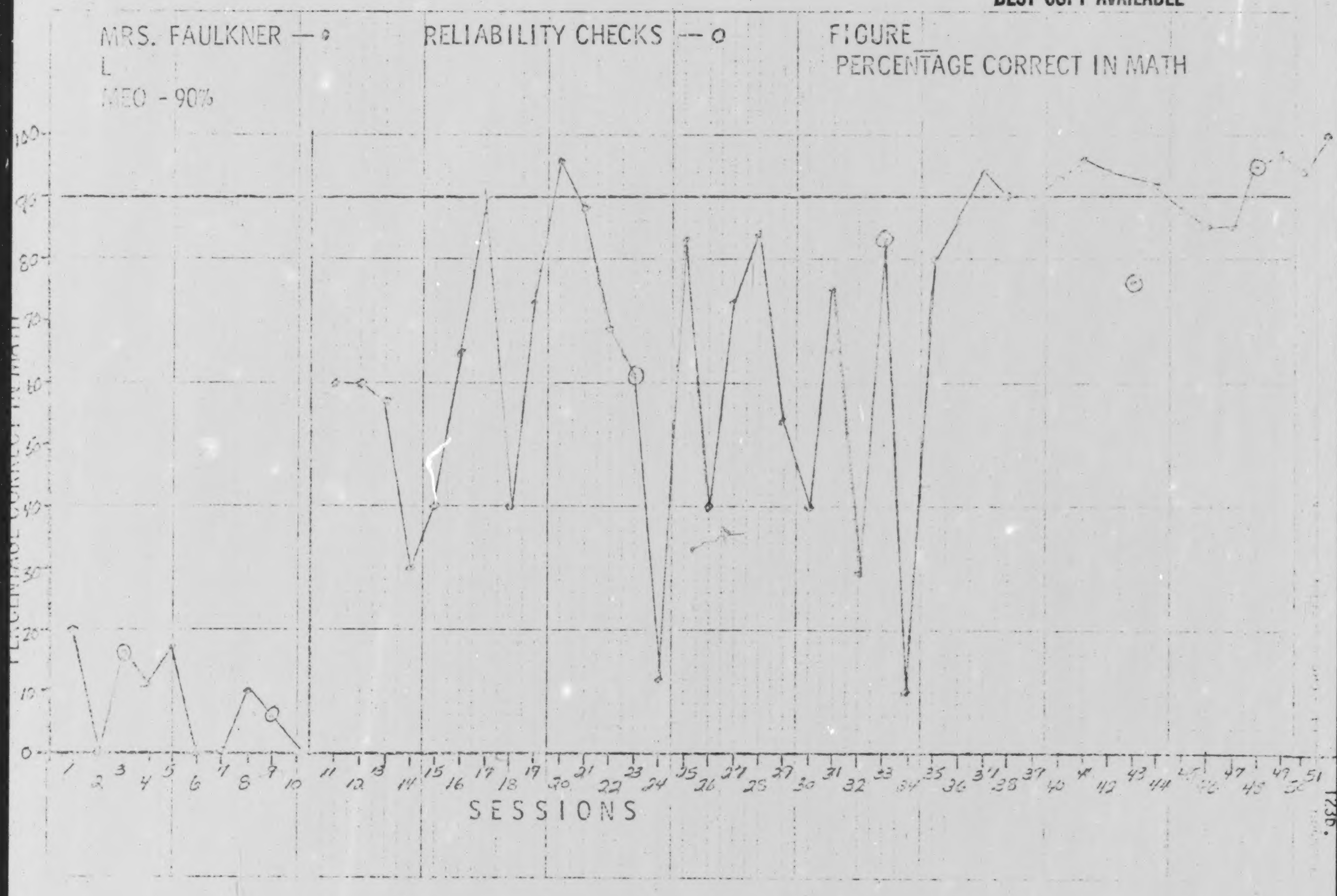
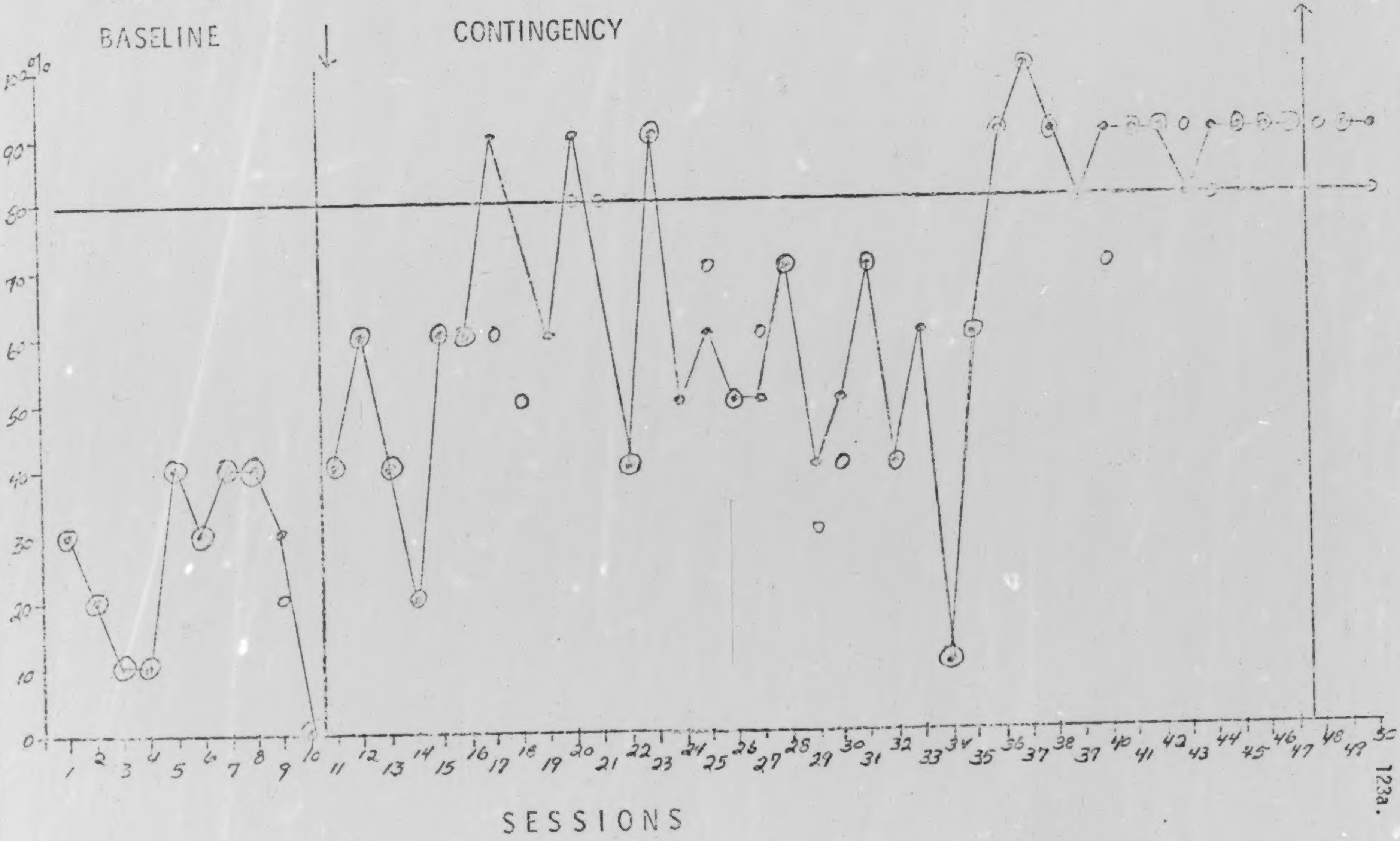


FIGURE
PERCENTAGE CORRECT IN MATH

MRS. FAULKNER › RELIABILITY BY TEACHER AIDE › FIGURE__
L
MAPL - 80%

PERCENTAGE OF ATTENDING DURING MATH



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MODIFICATION OF INAPPROPRIATE SOCIAL BEHAVIORS IN A THIRD GRADE CHILD

By

Beatrice C. Johnson and Miriam Conlon

LEARNER AND ENVIRONMENT

D is an eight year old girl attending a regular third grade class. She is an intelligent, capable child. However, she had an inappropriate social behavioral habit which was offensive to her peers and teachers. She sucked the three middle fingers of her right hand and twirled her hair with her left hand. She sucked her fingers during every class and even at recess time. The children did not play with her, or even seem to like her. She seemed very unhappy and lonely.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

The teacher decided to check D with a stop watch during a thirty minute period each day for eight days to see exactly how many minutes out of the thirty her fingers were in her mouth. This was done each day while the class was viewing "Electric Company", from 11:00 to 11:30 a.m.

TEACHING/LEARNING PROCEDURES AND RESULTS

Baseline 1:

Baseline covers the first eight days of record keeping. Deidre averaged seventeen plus minutes of inappropriate behavior during the thirty minute period of "Electric Company", ranging from eleven minutes, fourteen seconds to twenty-five minutes, fifty-three seconds.

The teacher made a vertical bar graph to show D just how much time she spent sucking her fingers. She discussed the habit with her and the child decided she really would like to break the habit.

The teacher gave D a small knitting shuttle, needle and yarn and taught her to knit. Then, she was allowed to take it to "Electric Company" with her and knit while watching television. As soon as she could go through the thirty-minute period without inappropriate behavior she was promised the use of the knitter anytime.

During the next six days of the experimental procedure, D never once indulged in inappropriate behavior, therefore she was allowed to use the knitter anytime she felt the need of it.

Post Checks:

On April 3, 1972 a post check was made without D 's knowledge of it. She had her knitter with her but did not use it much. She had 0 minutes and 0 seconds of inappropriate behavior.

May 8, 1972 a third post check was made and D 's inappropriate behavior was still at zero.

Weekly post checks will be made until the end of the school year.

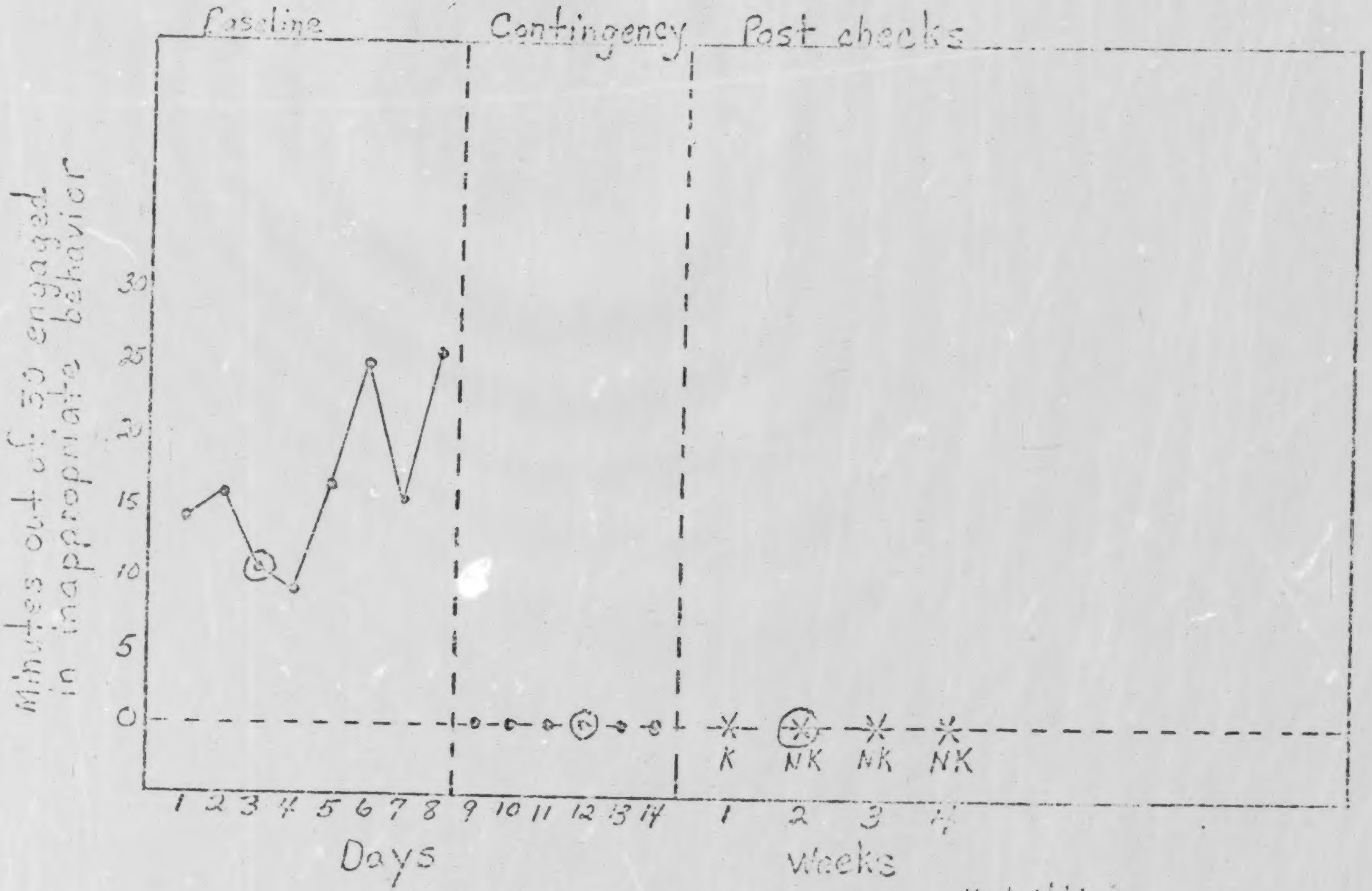
Discussion:

This project shows a teacher can help a child overcome inappropriate behavior by developing proecdures incompatible with the inappropriate behavior.

The child appears much happier now and is more accepted by her peers, plays and, seldom if ever, sucks her fingers.

MRS. JOHNSON
D
FIGURE__

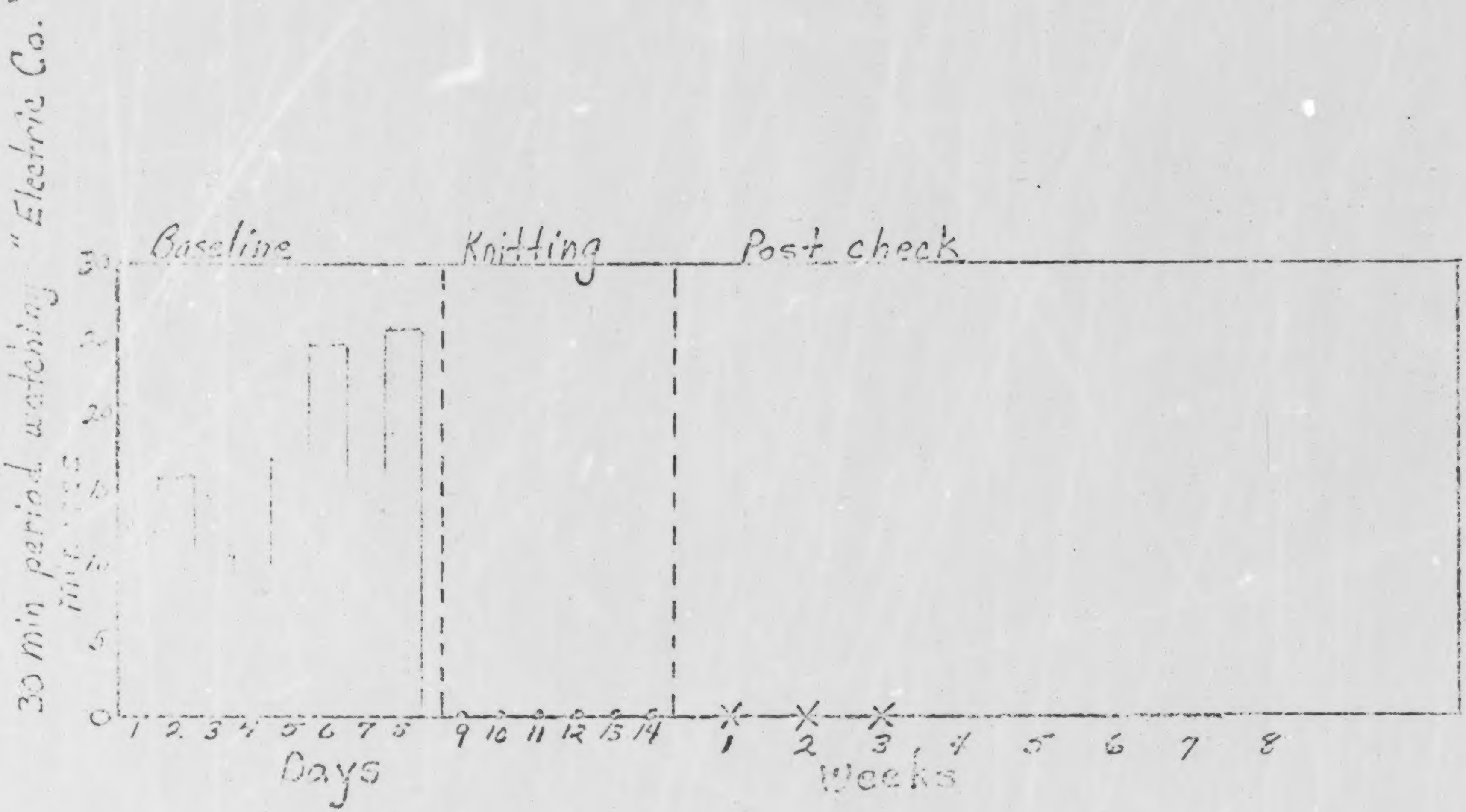
DAILY MEASURE ∘
RELIABILITY CHECKS ⊙
WEEKLY POST CHECKS ✳



K-knitting
NK-Not knitting

MRS. JOHNSON SHOWED THIS BAR GRAPH TO D .

FIGURE__



REDUCTION OF INAPPROPRIATE OUT-OF-SEAT BEHAVIOR IN A FIRST GRADE GIRL

By

Clorinda Duke and Miriam Conlon

LEARNER AND ENVIRONMENT

J was a first grade girl who was referred to the consulting teacher because of a high rate of inappropriate out-of-seat behavior.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

The teacher decided that out-of-seat occurrences in excess of six per recording session would be above the Minimum Acceptable Performance Level. The teacher felt the class could stay within this range and still be able to get necessary materials, wash paste off hands, get more materials, etc.

Out-of-seat behaviors were measured daily for a 20-minute period. Reliability checks were made throughout the experiment. The mean agreement between the teacher and the second observer was 88.8%.

TEACHING/LEARNING PROCEDURES AND RESULTS

During the baseline phase, J 's out-of-seat behaviors ranged from 5- 21 with a mean of 13 and was therefore eligibile for Special Education Services. On day 13, the teacher told J that she could earn up to 5 stars if she would stay in her seat, except when she needed materials, during the 20 minute period. The teacher would give her earned stars immediately following the 20 minute period so J could paste them on her daily index card and then file the card in her own file box (a standard metal box appropriately decorated). During the contingency phase the behavior dropped to a range of from 9 to 10 with a mean 5.9 which met the MAPL. The 35th day marked the beginning of

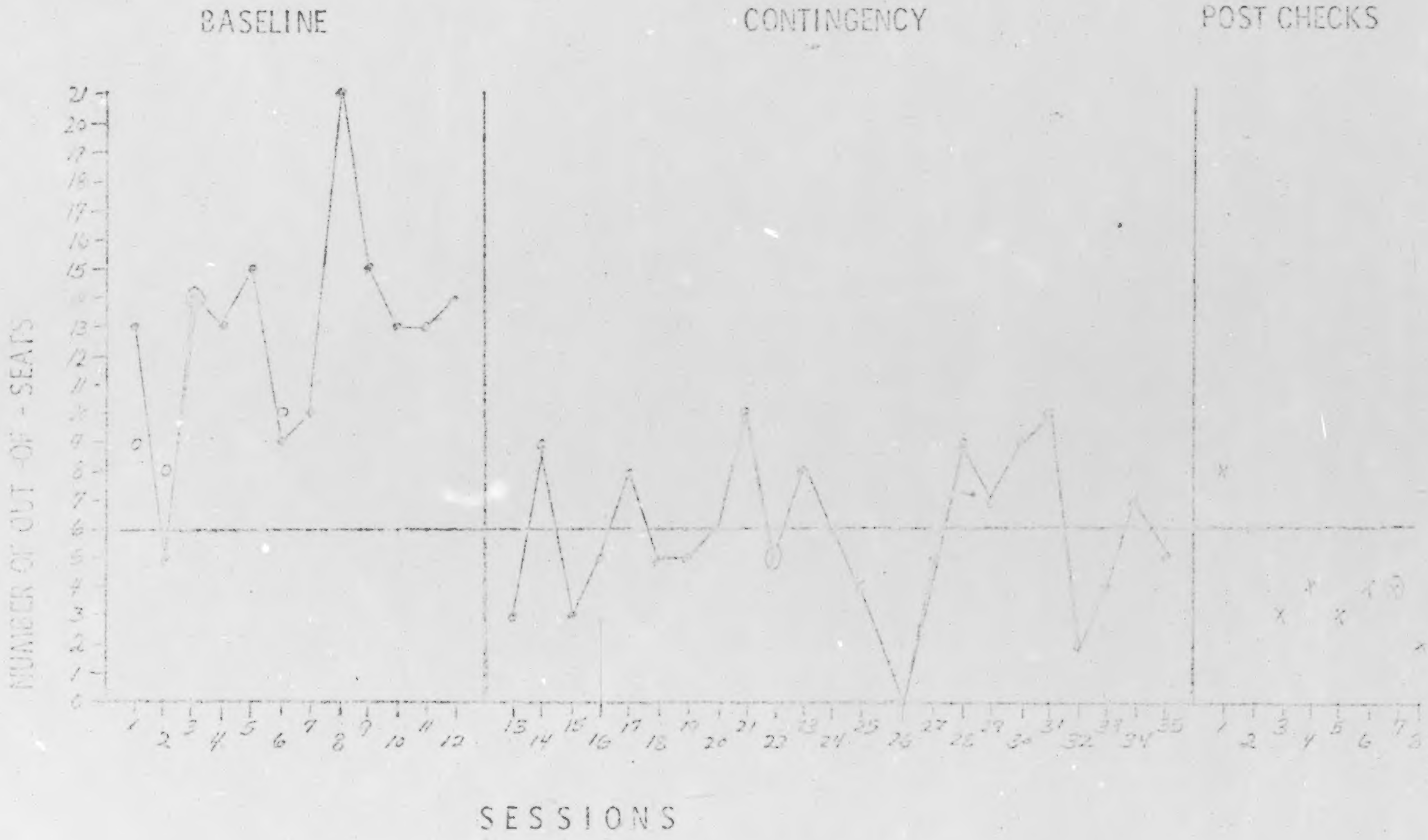
Christmas vocation so J was told she could take the box and cards home. Following the vacation, the teacher withdrew the earned star procedures and has been doing post checks every two weeks since. The eight post checks show a range of from 2 to 8 with a mean of 4.6.

This experiement demonstrated that out-of-seat behavior could be reduced by earned stars. Once the behavior appeared stabilized at a low rate, it continued at this low rate even after the reward was. withdrawn.

MRS. DUKE
J

MAPL - 6

FIGURE__
DAILY MEASURE — o
RELIABILITY CHECKS — o
POST CHECKS — x



DEVELOPMENT OF AN EFFECTIVE PROGRAM FOR A FIFTH GRADE ELECTIVE MUTE

By

Marianne Buonano and Miriam Conlon

LEARNER AND ENVIRONMENT

J is an eleven year old boy enrolled in a fifth grade class. He is one of thirty-five students in the fifth and sixth grade wing which is operating on an open classroom concept. J is a repeater (Level 1) and has attended four schools. J has good social interactions with his peers, but has a history of extremely withdrawn behavior when relating to adults. This study began with my concern over this, and the concern expressed to me by J 's mother.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURES

During baseline, shown by months, although a daily measurement was taken, J never voluntarily spoke with me. Checking with other teachers in the building, I found the situation to be the same. A notebook was used to tally J 's responses (of which there were none) before this measurement was transferred to the baseline of the graph.

TEACHING/LEARNING PROCEDURES AND RESULTS

Baseline: From mid-October through March (I did not work with J from September - mid-October) J never voluntarily spoke with me, nor was there eye contact to any extent. J would only speak when prompted, and his responses were simply a "Yes," "No," or "I don't know."

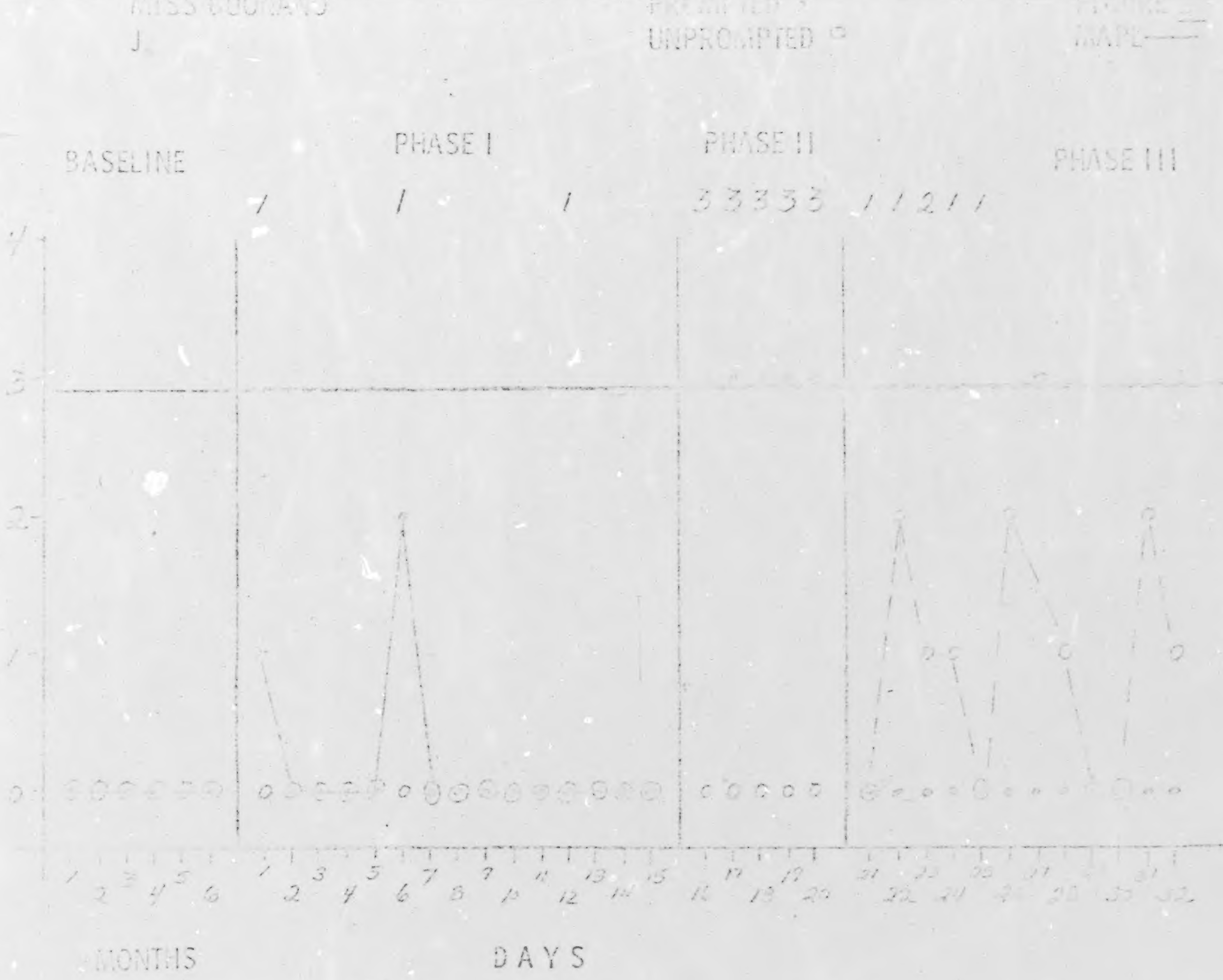
Phase 1: This phase began with a contract between J and myself. We agreed that if J would come to me and talk with me about what he was doing or what he had done in school three times a day, he would receive ten or fifteen minutes a day of free time at the end of the day. This phase covered a three week time period. J was reminded of our contract once at the start of the first day of each school week. J verbally communicated with me three times during this period. The first communication was on the first Monday of Experimental Phase 1, the second and third communications on the second Monday of this phase. Consequently J never received his free time during Experimental Phase 1. At this time, I discussed the problem with our district consulting teacher, Mrs. Miriam Conlon and Dr. Edward Hanley from the Special Education Program. We decided that some definite changes were in order. Experimental Phase 2 began with these changes.

Phase 2: These changes consisted of certain responsibilities assumed by me rather than J . We felt this might help J feel more comfortable. Now I went to J , brought him to my desk, and then hoped J would talk with me. I received responses from J three times a day for one week.

Phase 3: This phase was, and is a compromise between phase 1 and 2. J is reminded of our original agreement daily, and I then hope that he will come to me and speak with me. J has not followed the "guidelines" we agreed upon. However, he has now begun to voluntarily speak with me. This, of course, was a very long range goal, and completely unexpected at this time. J 's mother has reported that J has recently become much more verbal at home.

Discussion:

This study shows that through a very systematic approach (Experimental Phase 2) behavior modification can be achieved in a most difficult school (social) problem. This study is not yet complete. It will be continued, with data constantly being collected and graphed for an indefinite period of time.


MISS GOODMAN
J.
PROMPTED ·
UNPROMPTED ○
FIGURE
MAPL
BASELINE
PHASE I
PHASE II
PHASE III
/ / /
3 3 3 3 3
/ / 2 / /
0
1
2
3
4
1 2 3 4 5 6
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32
MONTHS
DAYS

PENMANSHIP STUDY USING PEER SHAPING

By
Mary Metakos and Miriam Conlon

LEARNER AND ENVIRONMENT

D is a second grade student in a regular classroom. He was a good achiever, but his handwriting was illegible.

BEHAVIOR OF CONCERN AND MEASUREMENT PROCEDURE

During each condition, the teacher and at least two independent observers daily measured D 's handwriting according to a set of criteria prepared by the teacher and consulting teacher.

The teacher assigned D to write a short story independently. This first draft was then read by three people. Each person read orally and the criterion for an illegible word was any hesitation. Two observers listened and measured while the third read aloud. The results were as follows:

Session 1 -- 63%
Session 2 -- 45%
Session 3 -- 62%
Session 4 -- 51%
Session 5 -- 59%
Session 6 -- 52%

TEACHING/LEARNING PROCEDURES AND RESULTS

Phase 1 Shaping Second Draft

During this condition a peer tutor would help D rewrite the first draft until he achieved 80-100% legibility according to a set of handwriting rules prepared by the teacher and classroom teacher. These new criteria were devised because we realized that the observers could now read his writing without hesitation yet his writing still had not met standards set up for the rest of the class. These new criteria included: uniform letter size, uniform spacing, letters on the line, and overall neatness, especially when erasures were necessary.

Phase II Shaping First Draft

Beginning with session 7, the peer tutor began working with D during the first draft of his writing, using the same criteria. An increase of legible writing was observed immediately. The peer tutor began to leave D for brief periods of time, come back, check his work and priase him. This procedure was continued with the peer tutor leaving D for longer and longer periods of time until D finally completed the story on his own. This phase lasted four weeks. (On the graph, sessions 7-17).

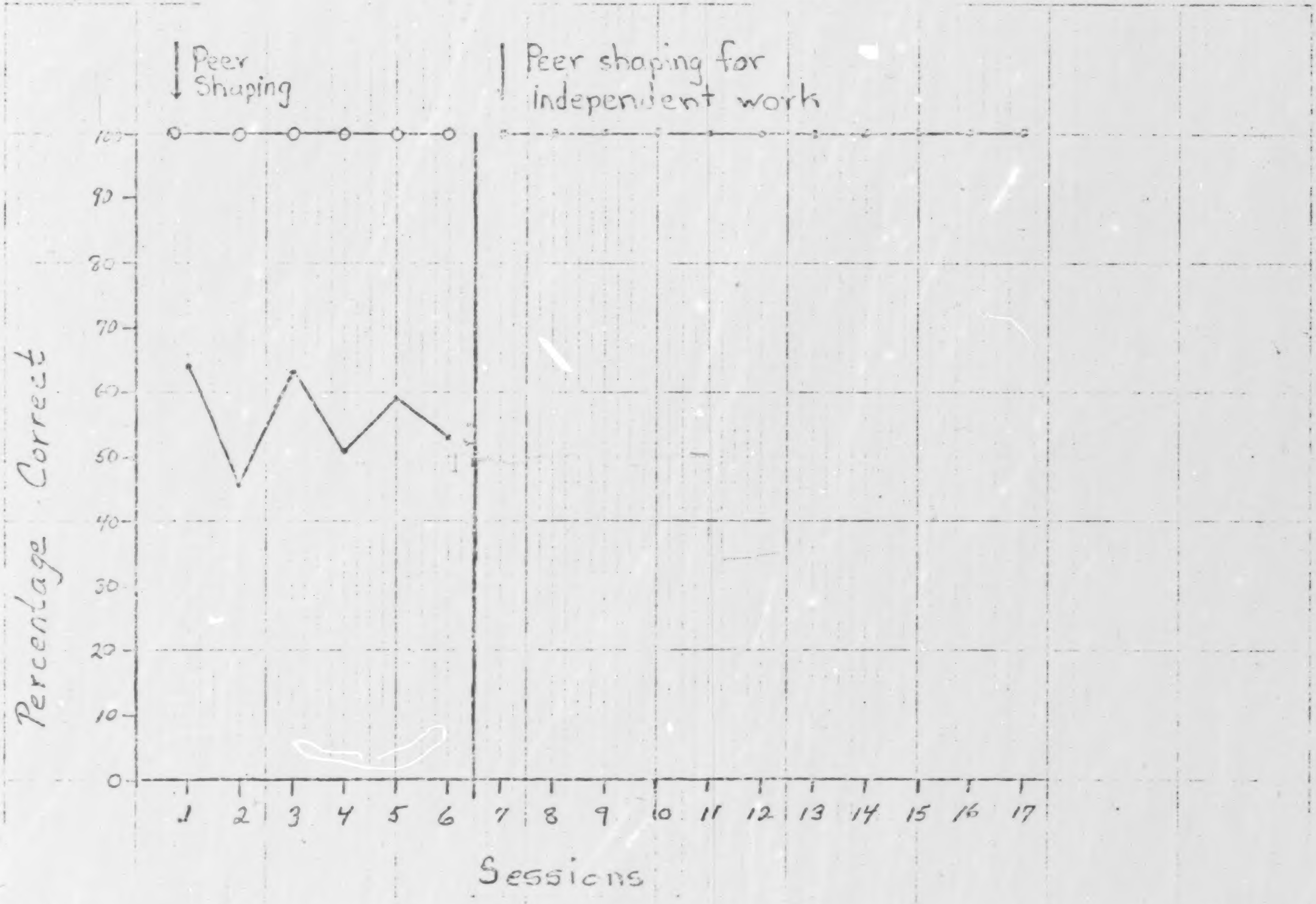
Discussion:

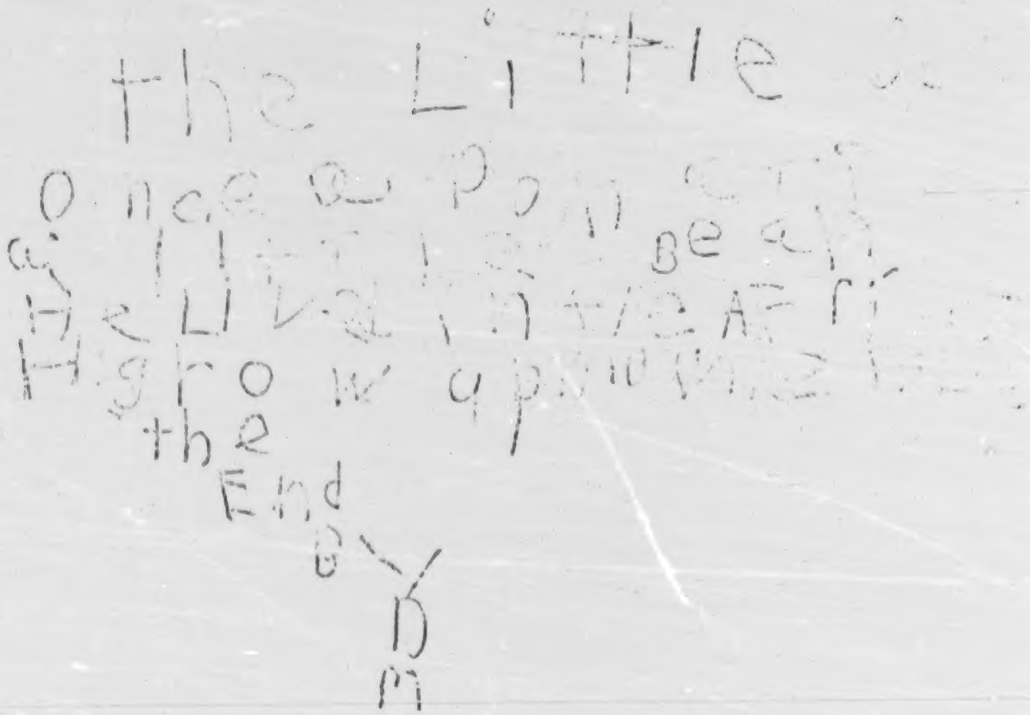
This study shows that a teacher can help a child improve his writing through a peer shaping procedure. Not only did D meet the terminal objective of meeting the handwriting criteria independently, but the teacher has been able to collect samples of carryover to his regular school work.

[illegible]
D [illegible]

F[illegible]RE
FIRST DRAFT ___ •
SECOND DRAFT ___ ○

BEST COPY AVAILABLE





the Little [illegible]
Once upon a [illegible]
a little Bea[illegible]
He Live in [illegible]
H grow up [illegible]
the
End
By
D
M

FIGURE_
SHAPING (a.)

FIGURE
INDEPENDENT WORK

Kittens

I like Kittens. I like to watch them Play. I like yellow and Gray Kittens. Kittens are fun.

the End
By D

The Little Bear

Once apon a time
a little Bear lived
in the aFrica zoo.
He grew up and
now he is big.

by
Dan [illegible]

FIGURE_

SHAPING (b.)

1. This is their School

2. They rode to School on a bus.

3. Ted said, Hi te[illegible] n[illegible]
hos[illegible] on the bus

4. Soon it was time to go into the room

5. they look their book
In Their room.

6. I Bought two pencils with a dime.

7. Book room noon time

Write the new words in which:

8. ch = k School gh is silent Bought

A REINFORCEMENT PROGRAM IN PENMANSHIP FOR A NINE YEAR OLD BOY

By

Wanda Wilbur and Miriam Conlon

LEARNER AND ENVIRONMENT

J is a well behaved, bright nine year old boy enrolled in a regular fourth grade classroom.

However, he seemed to have a poor self-image and seemed very insecure about doing his work, unless I was at his side every minute. He seldom completed his assignments, and what was completed was impossible to read.

TEACHING/LEARNING PROCEDURES AND RESULTS

Baseline: The consulting teacher and I discussed the problem and worked out and tried various procedures to improve his handwriting such as, shorter assignments, and tracing over my handwriting doing the last four words alone. These procedures seemed ineffective and progress was very slow.

Seat Change Procedures

However, a short time ago I decided to change the seating arrangement in the room and I put J in a group with three very talkative but friendly boys. His friends at once began to encourage him to complete his work more quickly and neatly according to my instructions. As the following samples show, apparently, this peer reinforcement, coupled with teacher praise for appropriate work, brought about an immediate change.

Although it is difficult to measure attitudes, J seems much more relaxed, confident, and above all, proud of his work.

FIGURE__

BEFORE PROCEDURES

Jan 25 [illegible]

1. [illegible] [illegible] [illegible] [illegible] money

2. [illegible] [illegible] [illegible] [illegible]

3. [illegible] [illegible] [illegible] [illegible] [illegible]

4. [illegible] who is calling on the telephone

5. About how much [illegible] would it cost

6. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

FIGURE
AFTER PROCEDURES

[illegible] Day [illegible]

1 [illegible] [illegible] your [illegible] the [illegible]

2 the farmer [illegible] [illegible] the

3 Did you ever [illegible] [illegible] [illegible] with a [illegible].

4 You must [illegible] [illegible] [illegible] and [illegible] [illegible].

5 At the [illegible] a down [illegible] a red suit.

SUMMARY OF CONVENTION 1972

By

Phyllis F. Perelman

(Mrs. Perelman is an Instructor and Consulting Teacher, Special Education Program, College of Education, University of Vermont, and served as Chairman of the Steering Committee for the Third Annual Convention for Behavioral Educators.)

"A very special education for all children" was the convention theme of a large and enthusiastic group of teachers, school administrators, superintendents, State Department of Education personnel, Special Education faculty, and other interested persons from Vermont and New Hampshire. Over 170 people gathered at the Tavern Motor Inn in Montpelier on Thursday, May 18th, to attend the Third Annual Convention for Behavioral Educators.

The focus of the convention was to share successful methods of providing special help to students within their regular classrooms instead of setting them apart as "special" students. Presentations represented more than 300 studies conducted during the school year by teachers and other educators who have worked to develop, implement, and evaluate methods for helping students with learning deficits.

Thirty-one studies were presented during two concurrent sessions which were introduced by Martha Knight and Wayne Fox of the UVM Special Education Program faculty. Discussants of the projects were Adler Muller, Principal of the Hinesburg Elementary School, and Edward Houlihan, Assistant Superintendent of the Chittenden South School District. Presenters included elementary, junior, and senior high teachers, reading teachers, student teachers, consulting teachers-in-training, consulting teacher aides, volunteers, teen tutors, demonstration class teachers, and a First

Chance therapist. The presenters came from the First Chance preschool program in Brattleboro and from elementary and secondary schools in the following districts: Barre, Burlington, Chittenden Central, Chittenden South, Ludlow, Norwich, Lebanon (N.H.), St. Johnsbury, Washington Northeast, and Washington West.

Hospitality, reservations, and dinner arrangements were graciously planned by Suzanne Armstrong, Consulting Teacher Intern in the Barre City School District, Following the dinner, Lu Christie, Consulting Teacher and Instructor in the UVM Special Education Program, acted as Mistress of Ceremonies.

Guest speaker of the evening was Miss Jean S. Garvin, Director, Division of Special Educational and Pupil Personnel Services of the Vermont State Department of Education who spoke on "Implications of S-98 for the future of special education in Vermont".

She stressed that S-98 is now in the Vermont statutes and will require continued efforts similar to those exemplified by the educators who presented their work. Some of the highlights of the new legislation include essential early education, required reporting of all children who are eligible to receive special education services, and most important, continued assessment of the quality of service. She encouraged the group to continue their committment to Vermont's children through implementation of the new law.